1: Handy E-5 (1920-1921)1923 OX6 Marquesas OX6

existence of reefs around the islands made it necessary that all fishing on a large scale should be deep sea fishing, rather than shallow water fishing such as was practiced in the Tuamotus, Tahiti, and Hawaii. Indeed, one who has become acquainted with the ruggedness, the stupendous rock structure and the unprotected coasts of these islands cannot help feeling that much that distinguishes the natives of the Marquesas and their culture from the peoples and cultures of other groups in Polynesia—the square solidity of the men, certain characteristics of hardness and aggressiveness in their natures which contrast strikingly with the softness of other Polynesians, the quantity and massiveness of their stone construction, their heavy, square featured images, and their strong, bold arts of wood carving and tattooing—is a direct result of the nature of the islands in which they lived. The environment is massive, strong, and vigorous: the people and their culture are to be characterized by the same terms.

SETTLEMENT

Six of the islands of the group were, and still are inhabited regularly: Fatu Hiva, Tahu Ata, Hiva Oa, Ua Pou, Ua Huka, and Nuku Hiva. Three others, smaller islands, were visited and possibly inhabited at times: Moho Tani, Fatu Uku, and Ei Ao. These will be discussed briefly after the description of the larger inhabited islands. It is certain that the six regularly inhabited islands were thickly populated. The proof of this lies in the fact that house platforms are to be found even in the most unadvantageous regions, both on the coast and inland, wherever conditions of soil and rainfall were such that food could be grown. Any attempt at determining the number of inhabitants at the time of discovery is necessarily based on guesswork. I believe that one may say with certainty, however, that the density of the population in the Marquesas was equal to the maximum that could be supported by agricultural and fishing industries of the primitive order practiced by the natives. In other words, the natives had lived in their islands long enough to populate them fully. Density of population, however, never brought about any development of intensive agriculture. Estimates made by early voyagers vary greatly, and, being all theoretical, seem scarcely worth giving here. Quiros (25, pp. 19, 26), who discovered the three southern islands in 1595, testifies to the density of population at that time. Judging from the estimates of early writers and their descriptions of the numbers of people seen in the various valleys which they visited, from personal acquaintanceship with the country at the present time, and some knowledge of the number and distribution of the house sites, it may be said with a fair amount of certainty that the population was certainly not under fifty thousand, and not over one

1: Handy E-5 (1920-1921)1923 OX6 Marquesas OX6

883 as those for tattooing, those in honor of young chiefs and of the dead, were celebrated, it was during these seasons that the *ka'ioi* were most active and most in evidence.

In the story of Tana-oa that is told on Hiva Oa, there is a very interesting indication that at one time there may have been a young men's house in which the male *ka'ioi* lived; or perhaps this incident is a reminiscence of the existence of such an institution in some region of former occupation; or perhaps merely a description of a tattooing house. In the story the young unmarried men, *ka'ioi*, are described as living together in a great house, as cooking for themselves, as amusing themselves, decorating themselves with *ena*, playing flutes and so on. I could find no knowledge [71] on the part of modern natives of the existence at any time of such an institution as a young men's house; but the existence of this institution in Indonesia makes this bit of evidence from the story of Tana-oa significant.

Hoki, troupes of singers and dancers that went on tours about neighboring valleys and islands, were undoubtedly made up for the most part of *ka'ioi*, but they seem to have constituted actually a separate institution and one that deserves to be discussed rather under songs and dances than in connection with social institutions. (See Music.)

COMMUNITY STRUCTURES

621 The movement of life within the tribe will be described in detail in subsequent sections devoted to communal activity in work, war, and festivals, family and domestic life, and to the part played by the individual and his relationship to others. The truest picture of community life of a tribe in the Marquesas is gained by regarding that life as merely an enlarged replica of the domestic life: the chief stood in the position of father of his tribe; his establishment represented merely an elaboration of the private establishment of every family; the festivals and rites, which were performed on the tribal public place before his house, were more elaborate, but for the same purposes, and performed in the same way as the more modest feasts that took place before the house of less prominent families; the comunal activity of the tribe, which was directed by the chief, was merely an elaboration of the domestic activity of the family, whether it was the building of a canoe, fishing, the erection of stone structures or less permanent buildings, or the preparation for feasts and for the celebration of amusements and rites.

Before leaving this discussion of the tribe a brief picture should be given of the community of structures and places, private and public. [361] Dwellings were not concentrated in villages but scattered throughout the length of the valley, or, in a few bays, along the shore. There seems to have been little tendency toward the formation of village communities.

1: Handy E-5 (1920-1921)1923 OX6 Marquesas OX6

The housework that required skill or was sacred was performed by the relatives of the chief and chiefess. The female relatives beat the cloth and made the mats, minor household utensils, and so on. Male relatives made the other utensils, implements, weapons, and the like, and also planted, collected, and prepared food. Competent members of the family aided the chief in directing tribal affairs.

Etiquette

There was little formality or etiquette in the association of the chief with his people. On Nuku Hiva it is said that chiefs and chiefesses were always addressed as *haka-iki*, or *ha'a-te-pe'iu*. For example, *"o au nei, tu u haka-iki"* (It is I, my chief) or, *"Ua he'e oe, tu u haka-iki, ma te vaka?"* (You will go by the canoe, my chief[1]) or, *"Ka'oha nui te ha'a-te-pe'iu"* (Cordial greetings to the chiefess). *Te-ï'i* and *te-iki* (shortened *te a'iki*, the chief) were terms used in addressing a young male chief. The corresponding forms for chiefly maids were *tahia* or the shortened *ti'a*, signifying noble, high born, gracious. Both of these terms have come in modern days to be favored prefixes to personal names and hence are very common; but in the ancient days they were evidently used in a much more restricted sense.

In Pua Ma'u all members of a chief's tribe were allowed to enter his house freely and without formality, but persons not of his tribe were not accorded this right. On Ua Pou, on the other hand, commoners were not allowed to enter the house of the *papa haka-iki* or the *papa ha'a-te-pe'iu*. This subject is discussed elsewhere under the description of the various aspects of sacredness of chiefs and chiefesses, which in Ua Pou and Nuku Hiva prevented commoners from entering chief's households but which produced no such regulations in Hiva Oa. The important matter in connection with etiquette is the complete lack of that tendency toward the elaborate formality characteristic of Tonga, Tahiti, and Hawaii.

Dress and Insignia

In the main the chief and chiefess wore the same style of dress as other members of the tribe, but on account of their wealth they had cloth and ornaments in greater quantity and of finer quality. *Hiapo*, a red *cloth* made of banyan bark, was *tapu* to *tama haka-iki*, first-born males. There were two things only that were definitely restricted to chiefs and chiefesses and that may be called chiefly insignia: the *tahi'i*, a pandanus leaf fan with carved handle; and the *to'o-to'o-pio'o* (*toko-toko-pio'o*), a thin staff, approximately six feet long, at the upper extremity of which was a band about three inches wide made of colored sennit cun-

1: Handy E-5 (1920-1921)1923 OX6 Marquesas OX6

622 292 [304] ningly wrapped and woven, surmounted by a small tuft of curly black hair. It appears that on Nuku Hiva the *pa'e ku'a*, an oblong frontlet about fifteen inches long and nine inches broad, made of fine red and green feathers, was the headdress particularly of chiefs and chiefesses. On Ua Pou and Fatu Hiva, Mrs. Handy found that one small tattoo design on the ankle was the mark of the chiefly class and was restricted to them. A conch shell belonged to the chief and served him in summoning his workers and warriors.

Family alliances

622 582 [428] On Hiva Oa the marriage of a chief with a representative of another chiefly stock was for social and political reasons considered the most favorable. Formal betrothal and marriage were always with equals; but a chief or chiefess was allowed to marry a commoner if he or she desired to do so, and the children of such a marriage were regarded as equal in rank with the chiefly father or mother, as the case might be, inheriting property and rights as though of full chiefly blood. On the other hand, on both Ua Pou and Nuku Hiva a chief was never allowed to marry out of the *papa haka-iki* or *papa ha'a-te-pe'iu*. In Haka he Tau on Ua Pou it was said that the first son or daughter of the chief of a tribe in that valley always married some one of another chiefly family in the same valley and, inheriting the rights of the father or mother, became in time the head of the tribe. For the younger children suitable mates were found among the children of chiefly families of other valleys. Garcia (pp. 102-103), describing the Nuku Hiva convention, says:

> It is necessary that the one chosen should be also of the royal race, for it is not permitted to great chiefs to make a misalliance. An example of what I speak of was that of the queen Paetini who received us in the first place at the bay of Taiohae and Hakapehi. . . . She was the sole inheritor of numerous districts and she had as her principal spouse the chief or king of the Oumis, distant some miles, who came to see her only for two or three months; but about her were habitually two or three other lesser chiefs, who were likewise called her spouses.

622 582 ● 171 [847 848] A striking contrast between the marriage customs of chiefs in the Marquesas and those on Tahiti and in Hawaii is furnished by the fact that children of chiefly stock who married persons of common birth were regarded in the Marquesas as legitimate and were not outcasts as in Hawaii, nor killed at birth as in Tahiti. It may be truly said that there was no such thing as illegitimacy and there was no infanticide. Another contrast with Hawaii is found in the fact that the *tapu* on the marriage of brothers and sisters applied as definitely and strictly in chiefly families as in others. There were no such close, consanguineous marriages as those of Hawaii to preserve the purity of chiefly blood.

1: Handy E-5 (1920-1921)1923 OX6 Marquesas OX6

chiefs except over their own households. The evidence of early visitors varies as regards the authority of chiefs. Krusenstern (16, p. 165) supports this:

> I have already had occasion to mention that the form of government is any thing rather than monarchical; the king is not to be distinguished either by his dress or by his ornaments from the lowest of his subjects: they laugh at his orders, and should he venture to strike any one, he would infallibly meet with a like return.

Porter (24, p. 98) says:

> As I before remarked, they have no chiefs who appear to assume any authority over them. They have only patriarchs, who possess solely the mild and gentle influence of a kind and indulgent father among his children.

Melville, on the other hand, was impressed with the personal authority of the chiefs in Tai-pi Vai during his residence. He writes (23, p. 217):

> During the festival I had not failed to remark the simplicity of manner, the freedom from all restaint, and, to a certain degree, the equality of condition manifested by the natives in general. No one appeared to assume any arrogant pretensions. There was little more than a slight difference in costume to distinguish the chiefs from the other natives. All appeared to mix together freely, and without any reserve; although I noticed that the wishes of a chief, even when delivered in the mildest tone, received the same immediate obedience which elsewhere would have been only accorded to a peremptory command.

When Melville arrived he was also made to feel the personality of the chief. He says (23, p. 74):

> Close to where we lay . . . were some eight or ten noble-looking chiefs . . . . who, more reserved than the rest, regarded us with a fixed and stern attention, which not a little discomposed our equanimity. One of them in particular, who appeared to be the highest in rank, placed himself directly facing me; locking at me with a rigidity of aspect under which I absolutely quailed. He never once opened his lips, but maintained his severe expression of countenance, without turning his face aside for a single moment. Never before had I been subjected to so strange and steady a glance; it revealed nothing of the mind of the savage, but it appeared to be reading my own.

Melville's whole account would indicate a strict obedience to their chief on the part of the people. It seems probable that in Taiohae at the time it was visited by Porter, Stewart, and Krusenstern, there were chiefs who were capable of wielding little personal authority. The general attitude of old Hiva Oa natives in discussing chiefs indicates a strong individualistic spirit of freedom but at the same time a definite respect for and appreciation of the authority of a *haka-iki*.

[11] One thing which prevented chiefs of the Marquesas from assuming such arbitrary power as was held by those of Tahiti and Hawaii was the fact that in the Marquesas chiefs were invested with neither the sacredness nor the religious prestige that would support such authority. It is

1: Handy E-5 (1920-1921)1923 OX6 Marquesas OX6

585 however, bring double the amount of gifts sent by the girl's family. If two *ko'ina* were given for the boy, two must be given also for the girl.

It was the convention in the case of all marriage festivals that all who came were allowed to snatch and carry away anything that they desired, not only the food provided but all the possessions of the family that was giving the feast, including utensils and weapons; a chief might even take [576] canoes. But there was this bit of etiquette associated with this custom of plundering (*fao*); before anyone took anything away he must sit down and eat with the family a bit of fish or pork and two or three fingersful of *popoi*. It is said that all the food provided for the feast would disappear within ten minutes after its beginning, and that there was often violent fighting.

[171] A marriage rite of an entirely different type, one which it is particularly interesting to find in the Marquesas because it corresponds with that of Rarotonga, was described to me on Ua Pou. When the son and the daughter of a chief were married on this island (this was usual at about the ages of eight or nine) the main feature of the rite consisted in the boy's approaching the house of the girl's parents over the prostrate bodies of her relatives; and subsequently of the girl's coming to the boy's parents' house in the same way, walking over the prostrate bodies of her fiancé's relatives.

[431] After a young couple had been married for a short time, it was customary for their relatives and friends to bring them sticks of young *ute*, which were planted to provide bark with which to make cloth for their clothes and bed coverings. According to Dordillon (8) this custom was called *ahuka*. At Pua Ma'u a new house was erected for the young couple.

MEMORIAL FESTIVALS

765 The festivals in honor of the departed spirit of a man were celebrated at irregular intervals after his death. Such rites were seldom performed [562] in honor of a woman. The oldest male relative determined the proper time and attended to the arrangements.

After a long period of restriction (*kahui*) on foods, the time was finally set. A day was selected for the seeking of pigs for offerings to the spirit (*tupapa'u*) of the dead man. These gifts were presented by the descendants of the deceased. Each descendant who had a child would take his first-born on his shoulder, starting out at about four o'clock in the morning. They went all through the valley. Arrived at a house, the man would cry, "Oh (name), Oh, (name)," until the householder was awake, using in calling him the name of the householder's first-born, or his own name if he had no child. When he was awake, the man seeking pigs

2: Handy & Winne E, R-5, 4 (1920-1921)1925
OX6 Marquesas OX6

114 a trained musician, and therefore no students except those who themselves have had the good fortune to become personally familiar with native music have up to this time had any acquaintanceship with it, for there have been no studies made that are of much value. This explains in part the oversight of students of the native culture. Another factor that has contributed is the fact that, although music is continually mentioned by travellers from the earliest time up to the present, it has never been given serious attention as a definite element in the native life. When most students read of singing in connection with festivals or rites, they accept it as a feature of the occasion and promptly forget it or dismiss it as an unimportant—though perhaps pleasant—accessory, much as we accept music at a dinner, a ball, or in church, as the usual thing and hence nothing to be particularly remarked.

X 533 535 All the world knows that the Polynesians were dancers; and yet music, both vocal and instrumental, had a far more prominent and serious place in every phase of the native life than did dancing. There were only certain occasions when dancing was in order, and at these times music of one kind or another always furnished the accompaniment. But there were innumerable other occasions associated with practically every activity in life—with worship, work, and war; with grief and joy; with love-making and play; with nursing a beloved child and exulting over prowess or revenge—when melody and rhythm furnished the magic skein that was woven into the evanescent webs of chant and song in which were bound, as the snared fly is enfolded by the spider, the sentiments and longings, and even the profoundest religious ideas of this race of spontaneous artists.

X 533 171 This is neither the time nor the place to attempt to make a comparative study of the music of the different islands; but it may not be out of place to mention certain inferences based on personal experience and to cite a few instances in which early visitors to islands in widely separated parts of Polynesia have mentioned singing in a way that indicates that there was group singing in all of the islands comparable to that about to be described in the Marquesas; in other words that, although perhaps formal chanting was more generally employed in the Marquesas than elsewhere, these islands were by no means exceptional in this way.

It is sometimes maintained that the ancient Hawaiians apparently had not developed group singing comparable to that of their cousins in the southern islands. If there was group singing it is certainly singular that early visitors fail to mention being entertained by choral songs, or hearing chants in connection with the religious rites. But it would be even more singular if the ancestors of a people, who today almost without exception exhibit a natural instinct for harmony and rhythm greater than that of

2: Handy & Winne E, R-5, 4 (1920-1921)1925
OX6 Marquesas OX6

the average European, had no singing of their own more advanced than the monotonous oli and mele which appear to be all that is remembered today. And the singularity becomes even more surprising, not to say incomprehensible, in view of the fact that it is beyond question that the Marquesans, Tahitians, Cook Islanders, Samoans and Tongans—all of whom were closely similar to the Hawaiians in other aspects of their culture—were singing in large groups when the first Europeans arrived among them. It appears certain that if it were possible to go back to the days when the hula organization was intact we should find that there were many occasions when the members, who were both singers and dancers, intoned meles, and probably other types of chants now forgotten, in chorus and probably in parts; that is, with melody and harmonization. But of more weight than this supposition is a bit of evidence which is based on definite knowledge that there was choral singing in the southern groups; and the personal opinion, based on several lines of evidence, that there was also part singing in these groups in pre-European times. David Malo,[2] in describing the elaborate rites performed in ancient times in Hawaii in connection with the consecration of the war temple (*luakini*), has written that at a certain stage in the consecration ceremonies, a service of "prayer" was carried on in the temple for two whole nights and days by a body of priests who had committed the "prayers" to memory. The kahunas were divided into two groups that occupied either side of the house in which the service was performed; and the service was carried on by the two groups alternately giving the recitation. Now all prayers in Polynesia were rhythmically intoned, for dynamic expression was considered essential to efficacy. When, therefore, Malo writes, or is translated as writing, that "a prayer was said," a more accurate sense of the meaning will be gained if we substitute "a prayer-spell was intoned, or chanted." Evidently this is an instance of the intonation of a religious chant by a choir of men in the temple service analogous to the intoning of the sacred chants at the temples and on the feast places by choirs of old men—who it is to be noted were called collectively *tuhuna* (kahuna)—in all rites in the Marquesas.

It is interesting to find mention in Captain King's account of Cook's[3] last and fatal visit to the Hawaiian islands of a group of dancers singing at a funeral; for dirges and eulogies were among the most prominent of the types of chants in Tonga, the Marquesas, and Cook Islands and doubtless elsewhere also. In Tonga the first missionaries who came on the ship "Duff" witnessed the funeral of one of the sacred chiefs of the

[2] Malo, David, Hawaiian antiquities: B. P. Bishop Mus. Sp. Pub. No. 2, pp. 225-6, 1903.
[3] Cook, James, A voyage to the Pacific Ocean, in the years 1776, 1777, 1778, 1779 and 1780; vol. III, pp. 161, 166-7, London, 1785.

2: Handy & Winne E, R-5, 4 (1920-1921)1925
OX6 Marquesas OX6

X533
●171
164

islands. In their description of the ceremonial performances they describe corps of women and of men as singing responsive chants as they bore material for the tomb of the divine potentate.[4] Gill[5] gives a more adequate description of the singing that was usual at the funerary feasts of the Cook Islanders. At these festivals dirges, or "weeping songs" (*tangi*), and eulogistic compositions were sung by those taking part. Songs were commenced by individuals who brought them as tributes or offerings to the dead, and were then caught up by a chorus and carried on. The dirges and eulogies, and the singing festivals and mode of performance, undoubtedly closely resembled the Marquesan chants and performances on the same occasions.

I can vouch for the fact that *tangi* are still remembered today for I heard one sung in Tahiti by a company of people from Atiu in the Cook Islands; and they sang also other types of songs, the names of which are mentioned by Gill, that were undoubtedly ancient. But these chants were intoned by a few of the older people from Atiu only after they had been persuaded with some difficulty that it was the old "heathen" songs that were wanted, and not the adapted hymns that are much more familiar today and more generally approved, and hence produced always when singing is asked for. On the basis of only two hearings I should say that singing of the Cook Islanders shows an interesting combination of quite distinct elements characteristic of the Marquesan and the Society Islands choruses. Male voices appear usually to commence and take the leading part as in the Marquesas, and the hearer has the same sense of strongly marked, rugged rhythm, contrasting with the more rapid, running Tahitian; and of a sort of heaviness or sluggishness in the voices and tempo. In range the Cook Islands songs resemble the Tahitian rather than the very restricted Marquesan. The rhythm of the Tahitian *himene*, in which the women rather than the men lead off and carry the melody, though they are vigorously supported and urged on by the men's voices which seem veritably to take hold of the melodic element and swing it along in a powerful dynamic impulsion, is quicker and more flexible than that of Marquesas or the Cook Islands, though at the same time it is very strong. These *himene* in Tahiti are probably the best known of the genuinely native performances in Polynesia. They are referred to as "genuinely native" in order to contrast them with the modern Hawaiian songs which, like most of the modern music in all parts of Polynesia, are based wholly on our own music which has been adapted in many very different and

X533
171

[4] Wilson, James, A missionary voyage to the Southern Pacific Ocean, performed in the years 1796, 1797, 1798, in the ship "Duff," commanded by Captain James Wilson (pp. 235-246), London, 1799.

[5] Gill, W. W., Myths and songs from the South Seas (pp. 181 ff.), London, 1876.

2: Handy & Winne E, R-5, 4 (1920-1921)1925
OX6 Marquesas OX6

most interesting ways in the various islands since the missionaries first came about a hundred years ago. Many *himene*, as all choral songs are called in the Society Islands, are adaptations of hymn tunes; many others are recent compositions which combine features from old chants with imported melodic and harmonic elements. But there are beside these many genuine old songs of the land, the words of which deal with heroes and events of long ago, which are remembered and rehearsed year after year for performance at the annual Bastile Day competition when prizes are given for the best singing of ancient and modern compositions. These are also sometimes sung upon other occasions of local festivity. Although these old chants may have been influenced to some extent by church hymn singing (they resemble the native hymns in some ways, but differ markedly in others) it is probable that in the main they represent the ancient form of choral song. As sung today they are elaborate compositions harmonized with seven parts, three carried by women's voices and four by men's voices. Performed by a large body of singers who have rehearsed them over and over until the whole chorus sweeps on as though animated and impelled by one will and completely unified in rhythmic and harmonic sense, these choral chants are stirring, and to some, truly beautiful musical creations.

As in the Cook and Society islands, most of the choral music that is to be heard today in the Tuamotus, Tonga and Samoa is based on old hymns introduced by the missionary teachers of the natives. This does not mean, however, that these compositions are not more native than they are European, for the people have a remarkable way of transforming in a very short time into their own metier even the most recent foreign musical importations. This modern music offers in itself, and we may be assured will continue to offer for many years to come, a very interesting field of study. But there are also the older types that are remembered and these are of greater interest to the student devoting himself to revealing the civilization of these islanders as it existed prior to European influence. On the strength of a very slight knowledge, consisting of one hearing of old Tuamotuan and one of old Samoan singing, I shall hazard the remark that the Tuamotuan singing represents a primitive form of the more elaborate Tahitian choruses (the Tuamotuans who were heard came for the most part from an atoll known to have been colonized from Tahiti), while the Tuamotuan love of sustained cadences resembles strongly the Samoan, contrasting with the modern Tahitian. The same love of sustained cadences was noted in songs heard on Maupiti, the outermost, most isolated, and most primitive of the Society Islands. Among the most charming songs in Samoa are the characteristic boat songs which are

2: Handy & Winne E, R-5, 4 (1920-1921)1925
OX6 Marquesas OX6

X533 171

chanted by the rowers and passengers in the great whale-boats used for travel by sea.

It is well known that chanting accompanied many kinds of labor in the ancient days in Polynesia—the Maoris, for instance, chanted and moved their bodies in rhythm as they planted; and the Marquesan tattooer chanted continuously as he tapped his designs into his subject's skin. There is every reason to suppose, therefore, that canoe songs were very generally used in ancient times, to accompany and strengthen the rhythm of the paddlers.

CHANTING IN THE MARQUESAS

In a musical sense the natives of the Marquesas are strangely parodoxical. In comparison with other Polynesians they appear to be lacking in the ability to learn and adapt foreign music—a talent characteristic of the people of most, if not all, of the other islands. Yet no Polynesian people employed music more continuously. In fact, it is scarcely conceivable that any people could give singing a more prominent place in their culture than did the Marquesans of olden times, for chanting or singing accompanied practically every activity in their life, and formed the central feature of most of their rites and festivities. Examples in the native dialect of stanzas of about twenty-five different types of chants used for different purposes or upon different occasions, each doubtless having its peculiar mode of performance, were collected on Hivaoa. In addition to these, some of which he also mentions, Dordillon[4] gives more than fifty names of chants—most of which he defines as "kinds of chants"—this to me seems to indicate that these are names for types of chants rather than names of single songs. To name a chant, a Marquesan combined the term for the type of chant with the name of the person it belonged to or the person or thing it was about: thus the Nani o Kae (Pretty Song of Kae), the Ru'u Tohu'i (Overturning Ru'u), and the Pu'e no One-u'i (Growing-Spell of Dark-earth).

[552]

X533 171

Their many different types of chants for various occasions, and their mode of choral singing, indicate clearly that the Marquesans had elaborate and thoroughly systematized musical conventions of their own; and the nature of the melodies, as Miss Winne points out (p. 28), certainly is indicative of a considerable development of musical sense. The fact that the Marquesans do not take naturally to our music as do other Polynesians would seem to prove among other things that inability of a people to adapt themselves to European music is not necessarily indicative of lack of musical sense or instincts; or, to put it another way, that ability to learn European

[4] Dordillon, I. R., Grammaire et dictionnaire de la langue des Iles Marquises, Paris, 1904.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

342 raising the entire house on posts, or by making the roof of disproportionate height. Houses of both types appear to have been used in all the islands, but the larger type shows more or less local variation in the form of the *paepae*, in size, and in decoration. In Nuku Hiva and Ua Huka the *paepae* was as a rule much wider in proportion to its length than in the islands further south and in Nuku Hiva many *paepae* were provided with a pit for tapu objects. The use of cut stone as edging for the house floor, although of sporadic occurrence in all the islands, was most frequent in Nuku Hiva and least frequent in Fatu Hiva. The decoration of the dwelling *paepae* with ornamental masonry appears to have been limited to Nuku Hiva, and its decoration with stone figures, to Hiva Oa, with a single doubtful example from Nuku Hiva. As a class the houses of Nuku Hiva were the largest in the group and those of Fatu Hiva, the smallest and most poorly built. Carved posts are said never to have been used in the dwellings of Ua Huka, were rare in Nuku Hiva, but were very common in Hiva Oa, Tau Ata and Fatu Hiva. Ornamental lashings were used everywhere in the Marquesas, but appear to have played a more important part in the decoration of houses in the northern than in the southern part of the group.

COMPARISON OF POLYNESIAN HOUSES

342 ● 171 Structures corresponding to the Marquesan small house type (p. 271) are of rather wide occurrence in Polynesia. They are recorded from Hawaii, where they represent the original form from which the other house types were developed. They are also found in Tonga and in the Society Islands. The dwelling house type, as described on page 272, is characteristic of the Marquesas, and so far as known is peculiar to that group of islands.

It seems probable, therefore, that the original settlers of the Marquesas brought with them a knowledge of the small house type and that the dwelling type is a later local development. The small house, while easily made, was inconvenient on account of the lack of head room and the large amount of waste space under the edges of the roof on either side. To develop the dwelling type from the small house type it was only necessary to raise the roof on one side and prop it up with posts placed along the outer edge. Even now small houses are occasionally enlarged in this way. The use of a stringer along the front of the house to keep the rafters from sagging between posts would be a step requiring no great inventive genius, while an increase in the pitch of the rear roof, cutting down the waste space along its lower edge, would soon follow. The complete absence in the Marquesas of houses with both front and rear walls is rather curious as the natives were in occasional contact with the Tuamotus and Society Islands, where walled houses were in regular use.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

342
171

On the basis of house type, Polynesia as a whole may be divided into two parts: a central part, including Tonga, Samoa, and to a lesser degree the Society Islands, in which the houses were oval, with rounded apses; and a marginal portion including New Zealand, the Marquesas and Hawaii, in which the houses were rectangular. In the central section there was no distinction between floor space and bed space, and the platform was unimportant. Some of the houses were furnished with wooden stools. Legged pillows of wood or bamboo were in regular use. In the marginal section there was a permanent division of bed and floor, a stone platform was used everywhere but in New Zealand and there was no furniture.

The Marquesan house had little in common with the central Polynesian type, and appears to be intermediate in form between the two varieties of the marginal type—that is, the Maori and the Hawaiian. In the arrangement of the frame and the common use of a stone platform and side entrance, it resembles the Hawaiian form. On the other hand the use of carved decoration links it with the Maori form, as does also the occurrence of a slide door. The *fata'a*, or store house on poles, finds no parallel in Hawaii or central Polynesia, but it closely resembles the Maori *pataka*. The use of ornamental lashings is absent in both Hawaii and New Zealand, but is highly developed in many parts of the central area. The best explanation for these facts appears to be that the Maori, Marquesan and Hawaiian forms are descended from a common ancestor, but that the Maori and Marquesan houses have been affected by some influence which introduced house carving and the *fata'a* type of structure, an influence which did not reach Hawaii. The Marquesan houses were then further modified by the introduction of ornamental lashings, a feature which did not reach either Hawaii or New Zealand.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

on the other hand are decorated only on those parts which were decorated in the actual ancient canoe and show a close attention to all details, even those hidden when the canoe was assembled, which is good evidence that the maker attempted a replica of the actual craft. At the present time the natives make models of the European vessels which visit the group and these models are properly proportioned and surprisingly accurate as to detail, the original of any model being at once recognizable. It seems probable, therefore, that the old models reproduce the real canoes with similar exactness, and it seems justifiable to use them for illustration and for the settlement of doubtful points.

Probably the earliest model now preserved is that in the Peabody Museum of Salem, Mass., which was made before 1820. (See Pl. XLIV, *A*.) As may be seen from the photograph it differs somewhat from the descriptions obtained. There are no separate bow and stern piece, the figurehead rests directly on the top of the cutwater, and the outrigger is unusual in form with a direct attachment. It is possible that it reproduces a special type, now forgotten, but it is equally possible that its extremely small size has led to the omission of certain features. Next in age to this model are two preserved in the Bishop Museum (Pl. XLIV, *C*) which agree in every way with the descriptions given, and appear to be accurate replicas of the ancient craft. The highly decorated example (Pl. XLIV, *B*) is comparatively new, and was probably made for sale to Europeans.

COMPARISON OF POLYNESIAN CANOES

The simple dugout is of such widespread use among primitive peoples that a consideration of its occurrance is of little or no comparative value. Quite the reverse is true, however, of the built up canoe, as such craft offer a wide field for possible variation. If we study the Polynesian canoes of this sort we find that in Tonga and Samoa, and from there eastward to the Society Islands, these craft were built up of many sections, each cut to fit its position in the whole. These sections were fastened together by cords passed not through the body of the plank, but through oblique holes cut in flanges or projections left on the inner side of each section at the time it was hewn. No lashings were visible on the outer surface, which, after the boat was assembled, was rubbed down to an even finish. The sections were so accurately fitted that it was often difficult to detect the joints. In Hawaii, the Marquesas, and New Zealand, the built up canoe consisted of five parts, an underbody—hewn when possible from a single log—bow and stern pieces, and side planks. These were attached by lashings passed through holes in the body of the plank so that they were exposed on the outside. The Samoan and Tongan craft had a sharp cutwater and were flat at bow and stern. Certain parts of the larger Samoan canoes were carved but the bow and stern decorations were limited to knobs carved on the flat upper surface or on the

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

50/ 171 edges of the gunwales. Only one Samoan form, said to be a result of foreign influence, had an upward curved projection at bow and stern. In the Hawaiian canoes we find no distinct cutwater as the bottom curves upward and narrows to a point. The bow is unornamented but has a short projection. In the Marquesas and New Zealand the bow and stern of the underbody are of the form just described for Hawaii. The bow piece extends for some distance beyond the end of the underbody while the stern piece curves upward to form a high tail. In the Society Islands the canoes were built of many pieces. The entire hull curved upward at the stern rising almost vertically for some distance, and was crowned with carved figures. At the bow there was a second projection which on some was decorated.

The sails used in Hawaii, the Marquesas, and New Zealand were made in the form of a triangle, with the apex at the foot of the mast and the boom along the lower edge. In Tonga and Samoa, on the other hand, the sail was supported by a yard, or yards, hung from the masthead. The Society Islands sail was fundamentally of the first mentioned type, but differed in having the upper end of the boom recurved.

Bailers appear to have been much the same everywhere in Polynesia, but were decorated with carving only in New Zealand and the Marquesas. Marquesan paddles appear to have no exact oceanic parallels, but resemble somewhat those from Easter Island and Mangareva. It is interesting to note in this connection that many of the Hawaiian paddles have on either side, near the tip of the blade, a short rib which serves no practical purpose. It seems possible that this is a survival of an earlier knob or end projection.

It is apparent that in the canoes, as in the houses, there are clear indications of an eastern and a western type. The eastern type is characterized by the use of only five essential parts, bound together by lashings which are visible externally, and by the use of a triangular sail and boom. The western is characterized by the use of many parts bound together by lashings, invisible externally, and by the use of a sail with a movable yard hung from the masthead. The use of ornate bow and stern pieces is unknown in the western area, with a single possible exception, but is normal in the eastern area except Hawaii.

If we compare the Maori and Marquesan canoes we find a series of resemblances so striking that they argue a close cultural relationship. Both boats are basicly the same in the form and arrangement of the parts, and in both the bow piece terminates in a figurehead. In the smaller Maori canoes this figurehead is a simple face borne on the end of a constricted neck, as in the Marquesan form. In the more elaborate Maori forms the figurehead is carved into a full figure, but the high vertical ornament of the Maori bow pieces finds a parallel

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

501 171

in the pierced planks placed along the center of the Marquesan bow piece. In both we have the high ornamental stern projection. In both, the upper edges of the side planks were expanded to form flat gunwales and the planks themselves were often decorated with carving. In both the Maori and Marquesan canoes, the strips covering the outside of the seams between underbody and side plank were blackened and were decorated with tufts of white feathers at the lashings. Among the Maori, the feathers for this seam decoration were obtained from the shearwater, and although the species of bird from which the Marquesans obtained their feathers for this purpose was not identified, the native descriptions of the habits of the birds makes it almost certain that these people also obtained their decorations from the shearwater.

The resemblances just noted are too close and numerous to be the result of independent evolution, and although the canoes of the two groups differed in certain minor structural details, the conclusion is inevitable that they represent divergent developments of a single type. The existence of such closely related forms at almost opposite ends of the Polynesian crescent, when the space between is occupied by forms which differ from both more widely than the Maori and Marquesan canoes differ from each other, is best explained by the assumption that they represent marginal survivals of a form which had been diffused over the whole eastern area, but which has been destroyed or overlaid in the intervening regions. The Society Island canoes, with their combination of high stern and prow with many piece construction, are probably a hybrid type resulting from the superposition of the western style of construction upon the Maori-Marquesan form. The exact relation of the Hawaiian canoe to this Maori-Marquesan form is difficult to establish. Basicly they are the same, but the Hawiian canoe lacks all the ornamental features of the other type. It seems probable that both are descended from a common ancestor while the relatively greater simplicity of the Hawaiian canoe suggests that it stands nearer to this original form. The features which distinguish the Maori-Marquesan type—the high bow and stern and profuse decoration—are strongly suggestive of Melanesia, and it seems probable that they are a result of Melanesian influence.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

a turner's chisel. The shaft, either from accident or intention, is curved to fit the hand accurately, and the whole surface shows a slight but even polish of the sort acquired through wear, so that it is probable that the implement was never hafted.

COMPARISON OF MARQUESAN ADZES WITH OTHER POLYNESIAN TYPES

A thorough comparative study of Oceanic adzes would, the author believes, yield results of great ethnological value. Such a study is beyond the scope of this paper, but it seems well to point out the features which distinguish Polynesian adzes as a class from those used in Melanesia, and to indicate the distribution of the various Polynesian types. No satisfactory information is available for some parts of Polynesia, but the conditions appear to be as follows:

Melanesian adzes as a class are oval or eliptical in cross section, with smoothly rounded contours, and nearly all of them are completely ground and polished. The use of a distinct tang is unknown. Polynesian adzes, on the other hand, are triangular to rectangular in crossection with surfaces composed of a few large planes meeting at sharp angles. New Zealand appears to have been the only locality in which the grinding and polishing of all surfaces was normal. Fully ground specimens are fairly common from Tonga, the Society, Austral and Cook groups, and from Easter and Chatham Islands, but are less numerous in collections than those which are at least partially rough. In Hawaii and Samoa fully ground adzes are almost unknown, while in the Marquesas complete grinding is practically limited to the *toki oa* type. In Tonga there appear to be two quite distinct types, one of which is clearly Melanesian while the other is an angular tangless blade of Polynesian character. Adzes of Melanesian contour and finish are present in collections from New Zealand, Easter Island, Chatham Island and rarely from the Society Islands. It thus appears that, broadly speaking, adzes of Melanesian type are present in all those localities in which there is a marked tendency toward complete grinding of recognizably Polynesian forms, while they are lacking in regions where complete grinding is rare or absent. It seems probable, therefore, that this feature is everywhere referable to a Melanesian influence, either direct or transmitted, and that the original Polynesian implement was ground, at most, upon the bit and outer face.

The angular Polynesian adzes may be divided into two main classes, tanged and tangless, each of which contains a number of subtypes. Tanged adzes are present in all the marginal Polynesian areas and extend as far west as the Cook Islands but they are rare in Samoa and absent in Tonga. They are divided into well marked local types: the Hawaiian type, the Southwestern type and the New Zealand type.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

412
171

The Hawaiian type is characterized by a rectangular or nearly rectangular cross section, relatively thick blade, and grinding upon the bit, or the bit and outer surface only. Fully 90 per cent of the Hawaiian specimens have this form, but its only occurrence outside that group appears to be in the Marquesas, where it is one of the rare forms (Pl. XLV, *D*).

The southeastern type is characterized by a triangular or subtriangular cross section, a relatively thin blade with a long bevel, and a more or less distinct shoulder where the blade meets the tang. It is often completely ground, and is normally better finished than the Hawaiian type. This is the dominant form in the Society, Austral and Cook islands, and in Easter Island, and is not uncommon in the Marquesas, although the specimens from that locality are inferior in finish to those from further south. Several examples of this type are known from New Zealand but it is lacking in the Chatham Islands and in Hawaii. (See Pl. XLV, *A-C*.)

The New Zealand type is characterized by a rectangular or nearly rectangular cross section, approaching in this respect the Hawaiian type. It is distinguished from the Hawaiian type by its thinner blade, rounded tang, and by a more or less complete grinding of all surfaces. It does not seem to occur in any other part of Polynesia although certain large adzes from the Chatham Islands may be a variant of this type.

The *toki aa* appears to be about equally common in the Society Islands and the Marquesas with related forms in the Cook and Austral islands and possibly in Easter Island. It is lacking in New Zealand and Hawaii. It is impossible to fix its point of origin, but the complete grinding characteristic of the type is at variance with the ordinary Marquesan practice and it seems probable that it was introduced into that group from the south.

The *toki kouma*, with slight modifications, is found throughout the same range as the *toki aa*. A very few examples come from New Zealand. It is entirely lacking in Hawaii although a few chisels from that locality have a slightly similar blade and bit form. Some examples from southeastern Polynesia and New Zealand are completely ground. The type is numerically important only in the Marquesas, and this, coupled with the fact that all Marquesan *toki kouma* show the rough finish characteristic of the group, may indicate that it was developed there. The occurrence of adzes like that shown in Plate XLVI, *B*, 2, in which a blade and tang of *toki kouma* type are coupled with a broad bit, lend support to this theory.

The *toki kouma* is sharply set off from all other Polynesian adz types by the fact that it was hafted with the base of the cross section triangle against the handle, a reversal of the ordinary practice. Among true adzes the nearest

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

Oceanic approach to the *toki kouma* form of blade and bit seems to be found in certain shell specimens from Micronesia. 4/2 171

Tangless adzes have been reported from every part of Polynesia for which there is satisfactory information. In New Zealand a well marked local type had been developed, with a thin blade of rectangular or nearly rectangular cross section ground on all surfaces. In Tonga also there appears to have been a distinct local type, characterized by a short, broad blade, relatively thin, and completely ground. The bulk of the Tongan specimens, and of the tangless adzes from all other parts of Polynesia, show such uniformity that one is forced to conclude that all were made after an established pattern. This universal type is characterized by quadrangular to subtriangular cross section, sides which converge toward the poll, and grinding upon the bit and outer face only. (See Pl. XLVII, *A*.)

The dominance of the two main adz types—that is, tanged and tangless—shows the same distinction between Samoa and Tonga on the one hand and marginal Polynesia on the other, which we have already noted in our study of houses and canoes. The tanged adz is dominant everywhere in marginal Polynesia, and lacking in the Samoa and Tonga. The tangless adzes throughout marginal Polynesia may be explained as a result of western Polynesian influence, but their comparative rarity in the Society Islands where western Polynesian influence is strong, and their frequency in the Marquesas, where such influence appears slight, is an argument against this. The wide distribution of tangless adzes, their relative simplicity and ease of manufacture, and their remarkable uniformity wherever found, suggest that they represent a primitive type originally known to all the Polynesians. Specimens collected in the Marquesas link the tangless adzes with both the rectangular and triangular tanged forms and both probably have been developed from the tangless adz.

The Polynesian distribution of the Marquesan adz types would seem to indicate more or less contact with the Society Islands and Southeastern Polynesia in general, while the remarkable similarity of some of the specimens to normal Hawaiian forms suggests an influence from that group also. The importance of the tangless adz may indicate a western Polynesian influence, but is more easily explained as a primitive survival.

METHODS OF HAFTING

Different methods were employed in the hafting of chisels and adzes. No really ancient specimens of either type were seen but the hafted adzes studied agree with the descriptions of informants and are almost identical with the iron bladed adzes still in ordinary use throughout the group, so they are probably good reproductions of the ancient form. The data in regard to the hafting of 4/2

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

expect to find many specimens, whereas perforated stone disks are so rare that most natives had never seen one and could offer no suggestion as to their use. The actual specimens are, moreover, poorly adapted for this purpose as No. 2 is quite asymmetrical while the perforation of No. 1 is much too narrow to admit a drill shaft. Perforated disks of this sort are also found in Hawaii as a rare form. 324

SINKERS

Stone sinkers were used with at least one of the Marquesan types of fish-net, but specimens deliberately shaped for this purpose are extremely rare. Only one object which could be identified as a net sinker was seen. This was a rather crudely finished specimen of coarse lava having an almost globular body terminating in a short knob with a somewhat expanded outer end, in which a shallow transverse groove was pecked. It was about 2¾ inches long and 1¼ inches in diameter. The neck and the single groove across the center of the top are said to have served for the attachment of cords. According to the owner of this specimen, an unusually intelligent native, sinkers of this type were attached to the lower edge of the long seins used in turtle fishing. 227

A second specimen, clearly related to this form but of such fine finish that its purpose was probably ceremonial rather than utilitarian, was seen in a collection in Taiohae, Nuku Hiva. The body was between 3 and 4 inches in diameter and almost perfectly spherical. The neck was very short and oval in cross section and each of the two parts into which the end was divided had been carved into a flat tiki face directed upward. The specimen appeared to be made of phonolite or some other equally hard and fine grained stone and had been carefully polished on all surfaces. Its heavy patination indicated a considerable age. This sinker, if it is a sinker, bears a remarkable resemblance to certain specimens found near the East Cape of New Zealand, which are identical in outline and in having two heads carved upon the projections at the top. A crudely made object of the same type, now in the Museum of the University of Pennsylvania, is shown in Plate XLIX, *A-B*. The New Zealand sinkers differ from the Marquesan examples in having the body of the sinker covered with elaborate carving. [171]

A stone object in the collection of Mme. Maleius, in Ta'aoa Hiva Oa, can probably be classed as a sinker. It is oval in outline, with one flat and one convex side. Down the center of the convex side a groove has been pecked, giving the whole much the form of a coffee bean. The material is a rather coarse lava, and the whole finish is rough. As far as known no other object of this sort has been reported from the Marquesas and the owner, who was thoroughly conversant with native matters, could offer no suggestion as to its use.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

227 In Hawaii artifacts in every way identical with this object are quite common and 171 were used as sinkers for squid hooks. The Marquesas was an important point of call for whalers in early days, and the first missionaries to establish themselves in the group were Hawaiians, so it is probable that this object was imported from that group during the historic period.

ANCHORS

501 Native accounts of the ancient fishing methods mention the use of anchors, but it seems probable that these were simply rough stones. A single worked specimen was seen in Taiohae, Nuka Hiva. It consisted of a conical stone of oval cross section about 10 inches high and 7 inches in diameter, through the upper end of which a hole about ¾ of an inch in diameter had been pierced. The natives were unable to identify this specimen, and as it was found among the debris of a trader's store it may be either of European workmanship or due to European influence.

PIPES

276 The use of tobacco in the Marquesas is almost certainly post-European, but 324 the plant was cultivated there very early in the historic period. Clay pipes in [539] burial caves that contain no other evidences of European contact indicate that they were among the earliest trade objects and most of the stone pipes appear to have been made at a time when the native culture had undergone little, if any, change. The clay pipes referred to are clearly the prototype from which the stone pipes were evolved, but the Marquesan pipe makers were no slavish imitators and their work shows considerable originality.

The material used was a rather soft, even-textured volcanic rock, and the shaping was probably done with metal tools, although the fine finish of most of the specimens makes it impossible to say whether such tools were always used. The bowl form was like that of the European clay pipes of the early nineteenth century, but the other features vary greatly. The simplest form is shown on Plate XLIX, *C*. It consists of a simple bowl 1⅜ inches long and about ¾ of an inch wide, with a hole pierced in one side for the stem. The bottom of the bowl is decorated with a short cylindrical knob.

A more elaborate specimen, seen in Hanahehe, Hiva Oa, consisted of a similar bowl, without the knob, which had at the bottom two projections ⅜ of an inch long, placed directly opposite each other. Both these projections were drilled [531] to take stems. The bowl was covered with lightly incised designs which had been almost obliterated by handling. The use of multiple stems appears to have been rather common and according to reliable informants some specimens had as many as four.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

considerable age. Of the carved specimens, one large and one small specimen are from Nuku Hiva and the other two from Hiva Oa. 412 531

In all five pounders the material appears to be local, and as the use of carved decoration on pounders is limited to the Marquesas, the theory of importation may be discarded. The heads carved on the small examples show a slight resemblance to those carved on the rarer type of tiki headed pounders, but the angularity of the features on the larger specimens finds no parallel in other Marquesan work. A similar angularity was noted, however, in some of the wood carvings in the Society Islands. The form of these specimens also finds a fairly close parallel in certain small specimens from Tahiti and in certain pounders of coral rock from the Austral Islands. The similarity of the decoration on all Marquesan conical pounders seems good evidence that it represents a distinct convention which was in some way linked with the conical form. The best explanation of these facts seems to be that the conical pounders are hybrids which owe their shape, and to a lesser degree the convention employed in their decoration, to a Southeastern Polynesian influence. An alternative explanation is that the conical pounders are archaic and that their carving shows a technique which is more primitive than the historic Marquesan convention.

COMPARISON OF MARQUESAN POUNDERS WITH OTHER POLYNESIAN TYPES

Stone pounders appear to be entirely lacking in Melanesia unless we include under this head certain heavy, bottle-shaped implements used for cracking nuts in the Solomon Islands and some archaeological finds in New Guinea. In Micronesia, stone pounders were used in the Marshall and Caroline Islands but seem to be lacking in the Gilbert Islands. In the Marshall Islands at least, they were used side by side with wooden pounders of identical shape. All the Micronesian pounders appear to be of one type, with some minor variations in the treatment of the upper surface of the head. They have been frequently described and figured. 412 171

The pounders of Polynesia must not be confused with the pestles which were found in many parts of Polynesia, but seem to have been unknown in the Marquesas.

Stone pounders do not appear to have been used in Samoa or Tonga but are found everywhere in marginal Polynesia with the possible exception of Easter and Chatham Islands. The New Zealand pounders appear to be pestles rather than true pounders and bear little resemblance to the other Polynesian forms. The absence of broad based pounders in New Zealand is of little significance in a comparative study, for these were specialized implements used principally for crushing breadfruit or taro and would have been of little use there,

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

412 but their absence in Western Polynesia is of great interest and would seem to in-
171 dicate a well marked difference in culture.

If we exclude the curious stirrup pounders from Kaual in the Hawaiian islands and the New Zealand fern root pounders, we find a general similarity among Polynesian implements of this class. There are many minor differences in shape, permitting of the creation of a great number of subtypes, but the major differences appear in the finishing of the upper end or head. On the basis of these differences in head form we may divide the pounders into four types: domed, flat, phallic and transversed gripped. The domed form is characteristic of most Hawaiian pounders and seems to be limited to that group. The flat form appears as a minor type in the Marquesas and possibly in Hawaii, but is lacking elsewhere in Polynesia. It is normal in Micronesia, however. The phallic type is limited to the Marquesas. The transverse grip type is normal throughout Southeastern Polynesia, where it shows many local variations, and occurs as a very rare form in the Marquesas.

The normal Marquesan pounders resemble those from the Society Islands more closely in the form of the base, body and grip than they do those from Hawaii, but their phallic heads are more nearly related to the Hawaiian domed than the Southeastern transverse grip type.

STONE FIGURES

532 The Marquesans excelled all other Polynesians in the manufacture of stone figures. Although none of their carvings equalled the great Easter Island statues in size, they ranged from large figures over eight feet high to little statuettes scarcely six inches tall. Between these extremes there were all gradations in size. For the sake of convenience the statues will be divided into those which were intended to be permanently set up and those which were portable, only the portable one being considered here. A single object of uncertain significance, which does not belong in either of these classes, will also be described.

532 A number of small stone figures of fish were used in the *me'ae* of the fish-
778 ermen. These figures were used one at a time and those not in use were buried within the precincts. The figure in use was placed upon an altar within the main house and was kept there as long as the catches were good. If the luck changed it was removed and replaced by another. According to a different account, which could not be correlated with the above, the small fish figures were the property of ordinary individuals. When the owner went fishing he took the image with him and threw it into the sea, and so great was its mana that on his return he would find it again at a given place, to which it had supernaturally returned.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

A special tool (Pl. LVII, *C*) made from the shell of a cowrie (*Cypraea mauritiana*) is used for peeling the ripened fruit. 413 252

An oval hole with sharp edges is ground through the rounded end of the shell. At the opposite end the top is broken away, the base of the shell and a strip across the center being left intact. When in use, the shell is held in the hand transversely, with the base against the palm and the sharp edge toward the outer side of the hand. It is moved downward and away from the body. The peelings cut off by the sharp edge pass through the shell and fall out at the rear aperture like the shavings from a plane. These peelers are remarkably rapid and effective, superior to any European tool for peeling breadfruit.

It is interesting that an identical tool is used in Kuschai, in the Carolines, although it is not reported from other parts of Micronesia. It is impossible to outline the Polynesian distribution of this tool. It was used in the Society Islands, but not in Hawaii, and seems to be absent in Tonga. [171]

When properly ripe, the breadfruit are soft enough for the raw pulp to be easily separated from the core with the fingers. Slightly unripe fruits are sometimes cut up for *ma* making. In ancient times this was probably done with a wooden breadfruit splitter. An implement of this sort in the Bishop Museum is eight inches long, with a maximum width of four inches. (See Pl. LVII, *B*.) It has a long oval blade terminating in a broad flat knob. Only the outer end of the blade is sharpened. It is made of some rather hard, light weight wood.

Fresh breadfruit are roasted on an open fire, the proper moment for removing them being determined by the sound they give when tapped with a stick. They are lifted from the fire with two sticks, or, in well equipped households, with tongs. 252 412

These tongs are made from a single straight piece of wood, preferably *miro*, about 2½ inches in diameter and 3 to 4 feet long. The wood is split for the lower two-thirds of its length and the ends spread apart. A few turns of fau bark are usually tied around the upper part of the stick to keep it from splitting in two. Tongs of this sort are also used to arrange the hot stones used in the earth oven, or *umu*. [824]

The charred outer surface of the breadfruit is removed with a knife of wood or bone. Most of the wooden knives appear to have been simple sticks with one end fashioned into a thin blade. Any wood, even that of the fau, might be used. (See Pl. LVII, *E*.) The bone knives are more carefully made (Pl. LVII, *F*.) As all those seen were shaped from the leg bones of cattle it seems doubtful that the type is an ancient one.

The upper end is squared and rubbed smooth, the natural swell of the bone at the joint giving the handle a slightly expanded butt. The blade is formed by grinding away one side of the shaft. The average knife is 9 inches long, with a blade length of 4 inches. The blade is 1½ inches wide at the base, tapering toward a broad rounded point.

After peeling, the breadfruit is dropped into the *popoi* trough, cored, and beaten into a paste with the *popoi* pounder.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

412 [824] [782] According to the accounts of informants the bamboo knives were slivers, one-half to three-quarters of an inch in width, from the stalk of the smaller of the two native species of bamboo. When first split off, the outer coat of the stem gives a surprisingly sharp edge, but this soon becomes dull with use. When a knife became dull it was usually thrown away and another sliver selected; but it was occasionally sharpened by tearing a thin strip off the edge with the teeth. Jardin (33. p. 53) says that knives made from this bamboo were used to dispatch human victims for sacrifice.

Knives made from sharpened pearl shells were used, also stone knives made from long flakes.

373 [824] On the rare occasions when an indoor light is required the natives use candles made of *ama* nuts. The ripe nuts are baked in an earth oven, the shells cracked, and the oily kernels extracted whole. These kernels are then strung on the stiff midrib of a coconut leaflet, the lower end of the midrib being left bare for some inches to serve as a base, or handle. As far as can be learned no special candle holder is used. The lower end of the midrib is simply thrust between two stones of the paved house floor. When ignited, the kernels burn slowly, with a flickering smoky flame and the light requires constant tending, as it is necessary to knock off the cinder of each nut with a short stick as soon as the fire had passed to the one below. It is rather curious that lamps appear never to have been used by the natives in the Marquesas, although their use was common in both the Society Islands and Hawaii. Torches were rarely used for interior illumination, but are still extensively used in night fishing. (See p. 397.)

[171]

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

all four sides. Square utensils appear to have been unknown, those which were not round being oval or oblong. In most of the oblong specimens the sides are more or less convex, the difference between them and the oval forms lying in the degree of flattening at the ends.

Two specimens of a very curious oblong type not observed elsewhere were seen in the Valley of Hanapaoa, Hiva Oa. These utensils were flat bottomed, with shallowly convex sides and ends which met in well marked angles. The whole form bore a remarkable resemblance to the type of food dish commonest among the Haida of the Northwest Coast of North America. The utensils were evidently of recent manufacture and the natives could give no name for the type and were uncertain whether it was ancient.

Oblong trays and dishes appear to have been in rather common use in ancient times, although few specimens have survived. Those seen were provided with low vertical sides and almost flat interior bottoms. The exterior was smoothly rounded. The troughs for beating *popoi* are really very large oblong trays (p. 352).

Several well marked types of oval dishes may be distinguished, of which the long narrow flat ended containers, called *toto*, are the most important. Except for the proportions of the different parts and the inward curve of the sides toward the rim, the form of these utensils is almost identical with that of the underbodies of the large built up canoes. The ends of the vessel are straight, the sides convex, so that the greatest width is in the center. The sides also show a vertical convexity, and the maximum width of the utensil both internally and externally is about midway between the bottom and rim. (See Pl. LX, *B*.)

Most of the *toto* are large. Bowls long enough for a man to lie in are remembered by the older natives. The smallest example seen was 18 inches long, with a maximum central width of 8¾ inches. Usually no handles were used with this type, but this small specimen was provided with a handle consisting of two loops of sennit passed through holes bored vertically in the corners and tied together above the center.

Toto are said to have been used principally for the transportation of prepared food at the time of feasts, and according to natives their shape was designed to make them easier to carry upon the shoulders. They were carried transversely, resting upon both shoulders and the nape of the neck, the bearer's head being bowed upon his chest.

Small oval *kava* bowls, with nearly parallel sides and rounded or pointed ends appear to have been fairly common and probably constitute a distinct type. Some of these bowls were provided with a suspension loop or handle attached to the center of one side. (See Pl. LX, *A*, 2-3.)

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

415 177 European residents of the group and many natives believe that they were copied from them. Other natives declare that the form is ancient. In view of the containers mentioned in the preceding paragraph it seems most probable that this type has been developed from an aboriginal one by the addition of a base and that the obvious resemblance of the resulting utensil to a soup tureen has given rise to the belief that the European utensil was copied entire. The question of the occurrence or non-occurrence of a base in primitive Marquesan utensils is of considerable ethnological interest, but the native evidence is conflicting and very few really old utensils have been preserved. In view of the practical absence of this feature elsewhere in Polynesia it seems safest to ascribe it to European influence.

415 Legged containers appear to be entirely absent in the Marquesas, the nearest approach being a low transverse flange carved near either end of the bottom. This feature was observed in only one specimen, and there is good reason to believe that it was not aboriginal. In view of the importance of utensils with legs in the Society Islands and their occasional occurrence in Hawaii, their absence in the Marquesas is rather curious.

Two bowls of unusual form are shown on Plate LXI, *C*. No. 1 seems to be an imitation of a long cupped leaf, the short upturned handle representing the stem. In both specimens there is a deep channel at the smaller end evidently intended to direct the flow of the fluid in pouring. In No. 1 this channel ends in a well marked lip. The interior of No. 2 is coated with *kava* enamel and it is probable that both were used as *kava* bowls.

An end channel similar to that in No. 2 is a common feature of the large four-legged Tahitian bowls, while bowls with lips were occasionally made by the Maori. Elsewhere in Polynesia these features appear to be rare or lacking.

COMPARISON OF CONTAINERS

415 171 A comparison of Polynesian containers could not fail to throw a great deal of light on the relations of the different groups, but anything like a satisfactory study is impossible at present. Regions in which the containers are poorly made or undecorated are often entirely unrepresented in Museums, while many others are represented by two or three specimens at most. Under the circumstances it is only possible to point out a few obvious similarities and differences. Long oval boxes with covers were numerous in the Marquesas and New Zealand, but appear to have been unknown in Hawaii and Western Polynesia. Round boxes with tight fitting covers are found throughout Western Polynesia and in Hawaii, but are lacking in the Marquesas and New Zealand. They appear to have been rare in Hawaii, and it seems safe to assign the long

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

box to the marginal, and the round box to the western culture. Vessels with legs are common in Western Polynesia and in the Society Islands, but are rare in Hawaii. They are absent in the Marquesas, and the only utensils which approach this form in New Zealand are certain large gourds used for potting birds which, according to Tregear (82, p. 98), were fitted with three or four legs to make them stand upright. It is probable, therefore, that the use of legs cut in one piece with the utensil was a feature of the western culture, their absence a feature of the eastern.

A comparison of Marquesan and Micronesian containers yields some interesting results. The Micronesian containers are uniformly flat bottomed and many are provided with bases. The Marquesan containers are round bottomed and the aboriginal use of a base is questionable. The bases of modern utensils appear identical with those used in the Pelew group. (Kubary, 76, Plates 23-7.) Bird shaped containers similar to those of the Marquesas were used in Pelew and the Caroline Islands. (See Finsch, 73, p 321, and Wilson, 83, p. 102.) These bird forms are not found in any other part of Polynesia or Micronesia.

Melanesian containers have never been studied or described as a whole, but it seems certain that the long oval box, which is a feature of eastern Polynesian culture, does not occur in this region. Legged utensils on the other hand are rather common, being most numerous in the Solomon Islands and in Fiji. Bases similar to those of the Pelew and Marquesas Islands seem to have been rather common in the Solomon Islands.

DECORATION OF CONTAINERS

Marquesan containers were decorated by several methods of which carving was the most important. The handles were decorated with seeds and bone tubes, and feathers or locks of hair seem to have been attached to the bodies of some of the containers. The lids of some bowls were covered with an incrustation of red or black seeds imbedded in breadfruit gum. Single red seeds, applied here and there, were used to heighten the effect of the carving, especially when the container was made of the dark colored *mio* wood. These seeds were either wedged in deep grooves of the carving or partly imbedded in the wood. This imbedding of seeds is an approach to inlaying, but it is significant that in spite of the strong aesthetic sense of the Marquesans and their extensive use of bone and mother of pearl in personal ornaments, they appear never to have inlaid wood with these materials.

The elaborate carved decoration of many Marquesan containers made them much sought after by collectors, and the demand for objects of this sort has led to a persistence of the art, although in a rather decadent form. In pre-

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

FLORAL DESIGNS

415 532 Representations of plant forms are quite rare, and true floral designs are represented by only three examples. In two of these, which appear upon the bottoms of two bowls so closely similar in other details that they are probably the work of the same artist, the center of the flower is represented by two concentric circles, around which the petals, represented by small ovals, are placed radially. The interior of some of the petals is decorated with herringbone design. (See fig. 9, *a*.) Upon a third specimen, groups of small pointed ovals, apparently representing bunches of leaves, are used to fill in the details of one of the larger designs. (See fig. 9, *b*.)

FIGURE 9.—Drawings of Marquesan floral designs.

415 531 From the specimens examined it seems that angular-geometric designs played a very minor part upon most containers, but they appear on a few specimens to the practical exclusion of curvilinear designs. Specimens showing anything like an equal frequency of occurrence of the two types of design appear to be entirely lacking. At the same time there is a strong tendency to give an angular form to designs which are basicly curvilinear. This tendency is most pronounced in the new specimens. The commonest of all design elements appear to have been the spiral and the hook scroll, segments of concentric ovals or rectangles ranking next in importance. Tiki figures, representations of animals or insects and combinations of crosses and hook scrolls are the most important motifs, as distinguished from design elements. *Mata* and *koake* are rare, while *pokaa* and *cipuato* are not common.

COMPARISON OF POLYNESIAN CONTAINER DESIGNS

415 531 171 Containers decorated with carved designs appear to have been unknown in western Polynesia and Hawaii. In other regions, except Easter Island and Chatham Islands, they were used to a greater or less extent, but reached their highest

[1] The relation of Marquesan designs as a whole to those of other parts of Polynesia have been discussed fully in a paper by Ruth Gruner (75). Only the most important points will be enumerated here.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

development in the Marquesas. A superficial study of the designs employed in the regions of their occurrence shows the following:

In southeastern Polynesia, to judge from the few examples available for study, we have a division of the surface to be decorated into a number of small sections or bands which are filled with small angular geometric motifs. These motifs are usually applied in bands, and are not as a rule combined to form larger designs. The only curvilinear form is the concentric circle.

In the Marquesas we have a division of the surface to be decorated into sections of relatively large size which are often separated by bands of simple design. These sections are treated as units, being filled with large designs formed by the combination of several design elements. Both curvilinear and angular-geometric designs are employed, but curvilinear designs are clearly dominant in container decoration. There is a tendency to give angularity to basicly curvilinear forms, such as the spiral, but there is an equally strong tendency to round the angles of basicly angular forms, such as the oblong.

In northern New Zealand the surface to be decorated is either treated as a whole, or divided into a very few large sections by bands of narrow design. Only curvilinear designs are employed, the dominant motif being the spiral. An important feature of the technique is the use of a beaded interline.

If we compare the southeastern Polynesian carvings with those on western Polynesian weapons, the most elaborately carved objects from that region, we are at once struck by a basic similarity in design and execution. There is the same division of the surface into many bands or sections which are filled with small angular-geometric motifs. The southeastern Polynesian examples show an additional motif, the concentric circle, and show superior workmanship, but the carvings from both regions resemble each other much more closely than they do those of either the Marquesans or Maoris.

The Marquesan and Maori carvings have little superficial resemblance, but they possess two features in common which are foreign to the regions just compared; a predominance of curvilinear designs, and an extensive use of the spiral. The toothed line, important in New Zealand, occurs in the Marquesas but is rare there. The practise of dividing the surface to be decorated into sections, constant in the Marquesas, is rare among the northern Maori, but angular-geometric designs seem to have been used in carving in some parts of New Zealand.

It appears that there existed originally in marginal Polynesia, exclusive of Hawaii, a predominantly curvilinear art which treated surfaces as a whole or in large sections. The original western Polynesian art was angular-geometric, with a division of the surfaces treated into many small sections. In the Cook Islands, Austral Islands and Society Islands, the original marginal art was almost de-

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

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stroyed by an invasion of western culture. The strong evidences of such an invasion have already been pointed out in the case of other elements of material culture. On the side of pure decoration the original art modified that of the invaders to a very small degree. Northern New Zealand, because of its location, was practically unaffected by the western Polynesian art. The Marquesas, on the other hand, received a moderately strong influence resulting either in the introduction of sectional treatment of surfaces and angular-geometric designs on in the strengthening of these features if they were present in the original complex.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

The step was attached to the shaft by sennit lashings passed around both, one set of these lashings covering the space behind the tiki figure while the second set of lashings encircled the step below it. The shaft was wrapped with tapa at the point where the step was attached. Black and red sennit are said to have been used for the lashings and it is probable that the strands were laid on in ornamental designs. The stilts were used in the ordinary European way, the instep of the foot resting against the shaft. The upper end of the shaft was grasped in the hand and lifted at each step. 481 526

The ancient Marquesans are said to have been unusually expert stilt walkers, running races over smooth pavements and engaging in knocking down contests. Native boys now engage in these contests. The antagonists face one another and, balancing on one stilt, extend the other stilt and make a quick swinging blow at the bottom of the enemy's stilt, recovering instantly. The sport continues until one or the other falls.

In view of the mountainous nature of the country, and the lack of soft or even level ground, it seems impossible that stilts could have been developed locally. They were used in Hawaii, the Society Islands and New Zealand, but do not appear to have been used in Samoa or Tonga. It seems safe, therefore, to consider them as a feature of the marginal, as opposed to the western Polynesian culture. [171]

COCONUT SHELLS

Small children frequently walk on coconut shells in solitary play. This sport is possibly related to stilt walking. From the numerous half shells thrown out by the kitchen the child selects two of equal size which are from the stem end of the nut. He then passes a loop of string through the eyes and inserts the big toe of either foot between the sides of the loops, holding the upper ends in his hands. In walking he lifts the shells by the loop at each step. The game seems to be a solitary one, the child stamping back and forth over the pavement of the house *paepae* and enjoying the clatter.

DARTS

One of the most important Marquesan games was dart throwing, called *teka*. This game is still occasionally played, and a few of the darts were seen. 526

The darts are made from straight pieces of upland reed or from hard wood switches and are about four feet long and one-half inch thick at the head. They are prepared simply by stripping off the leaves.

In playing the game a level open place is chosen.

A small round mound of hard earth is built, and the darts are thrown against this in such a way that they glance up and on down the course. The dart which travels farthest is the winner. The darts are sometimes thrown with a card (*aho*) which is a thin string, knotted at one end. One end is wrapped once around the dart near its center, being held in place by the tension at the knot, while the other end of the throwing cord is wrapped around the first finger, and the shaft grasped with the rest of the hand, keeping the cord taut. When the dart is thrown the cord causes it to rotate, making it fly straighter.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

526 There appears to have been a second dart throwing game in which somewhat heavier darts were used.

In this game the darts were thrown at a mark. In throwing, the larger end of the dart was balanced upon the palm of the left hand, while the smaller end was held in the right hand with the index finger across the tip. The darts were held at about the height of the waist and were propelled with an underhand motion.

[171] Games similar to the Marquesan *teka* were of nearly universal occurence in Polynesia.

POHUTU

Pohutu consisted of bundles of fau leaves rolled up and bound with pandanus strips, the whole forming a ball about two inches in diameter. One of the pandanus strips was left projecting for some inches to form a handle. The game was played by a single child who held the pandanus strip in one hand and batted the ball with the other, or by two children, one of whom held the strip while the other struck the ball. *Pohutu* were also used in the *pei* game, in which geneologies were repeated. The *pei* game, as described by Handy, suggests a close resemblance between the *pohutu* and the well known *poi* balls used by the Maori.

BALL AND PIN GAME

524 Langsdorff (38, pp. 172-3) describes a toy concerning which no information was obtained. He says:

Under the title of playthings may be mentioned one which consists of a stick about a foot long and an inch thick. A hole is bored in it at one end through which is run a peg five or six inches in length, and at the point of the peg is stuck a little ball of coco-thread. The stick is then struck with another, so that the ball is thrown up into the air. The game is to catch the ball upon the point of the peg. It is very probable that they have other objects of amusement of a similar kind, which may be ranged as playthings, but no others came under my observation.

TOPS

Tops, called *niu*, are still extensively made and used in the group. They are made of fau wood, an average specimen being 7 inches long and 2½ inches in diameter, with a cylindrical body and pointed head. The shape is almost exactly that of an ordinary artillery shell. They are spun by means of a whip. This whip consists of a stick handle about one foot in length with a lash of fau bark 2½ to 3 feet long, which is braided to within a few inches of the tip. Several boys usually play at tops at the same time, the winner being the one who can keep his top in motion the longest.

BOW AND ARROW, AND SLINGS

526 411 The bow, called *pana*, was not a weapon in the Marquesas. It was sometimes used to shoot shrimp, and *po'oko*, a small fish which frequents the rocks,

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

727 . . . bony skull, the lower jaw of which is firmly held in place by small plaited strings, very fine and very well arranged around the articulation. These are united by another larger and stronger plait which is prolonged in front of the incisor teeth of the two mandibles and passes under the chin and ends at the nodes behind the arch of the palate. At either side of the dental arch a large and strong wild pig tusk is fastened by these plaits to the bone of the cheek so that it appears to spring from the mouth of the individual in the same manner that it sprang from the mouth of the animal to which it belonged. A piece of hard wood, roughly carved, fills the anterior opening of the nasal fossa and more or less represents an abnormal nose. The eyes are imitated by large pieces of pearl shell fitted into the orbits [of the skull]. A small round piece of tortoise shell serves in place of pupil and a few hairs placed between the shell and the orbit represent the lashes of this lustrous eye. Finally, to complete this hideous assemblage, a few tresses of the vanquished one's hair are attached to the lower jaw by way of a beard and hang down below the chin.

Radiguet (52, p. 67) gives a description of such a prepared head which he found in a hole in one of the *me'ae*, as follows:

. . . human skull whose orbits were filled with brilliant disks of pearl shell, flat, and as large as a five franc piece. A hole pierced through the middle showed black in guise of a pupil. A piece of pointed wood filled the nasal cavity. Two teeth, long and menacing, had been driven into the alveolus of the canines. Finally, cords of coconut fiber attached to the maxilaries numerous tufts of hair disposed as a beard and to the ears oval wooden plaques whitened with chalk. The lower jaw was lacking.

A crude drawing of a head trophy of this type appears in one of Langsdorff's illustrations (38, p. 118).

The prospectus of Von den Steinen's forthcoming book on Marquesan art contains an illustration of a human skull covered with painted tapa, but it differs entirely from the trophies just described and was probably a religious object. The paintings upon it apparently represent facial tattooing.

COMPARISONS

411 The use of slings, with or without specially prepared stones is almost universal in Polynesia and Micronesia, with a scattering use in Melanesia. In 171 New Zealand the sling appears to have been obsolecent, being regularly used only by the Urewera tribe (Tregear, 82, pp. 314-15), and prepared sling stones seem to have been unknown. In the Society Islands (Ellis, 71, p. 290) and in Samoa and Tonga prepared stones do not appear to have been used although the sling was important. In Hawaii and the Maquesas oval or bluntly double conical stones appear to have been normally used. In Micronesia the use of specially prepared sling stones seems to have been universal. The Micronesian specimens are easily distinguishable from those of either Hawaii or the Marquesas because of their greater length and smaller proportional diameter. Some of them are almost cigar shaped.

It is not possible to get exact information as to the type of sling used in Samoa and Tonga. In Tonga the bow and arrow was the important missile.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

The Hawaiian and Micronesian slings are much cruder in construction than the Marquesan slings, and have little in common with them. The Marquesan and Society slings, on the other hand, are practically identical, corresponding not only in form, but even in such minor details as the occasional use of fau bark for the release cord. It is rather curious that such close correspondence should be coupled with the use of prepared stones in the Marquesas and their absence in the Society Islands.

The information on Marquesan spears is too incomplete to justify extensive comparison, but it is suggestive that the practise of cutting or piercing the shafts of javelines so that the head would break off in the wound appears to have been limited to the Marquesas and New Zealand. The thrusting spear with long easily broken barbs appears to have no Polynesian parallel, but is rather suggestive of certain north Australian forms.

A comparison of Polynesian club forms is especially interesting. The Hawaiians seem to have made only secondary use of the club, and the Hawaiian examples for the most part are short bludgeon-like weapons of rather inferior workmanship. There are some indications that a longer bat-like type was also in use, but it seems to have been numerically unimportant. The Marquesans seem to have entirely lacked short clubs, both their types, the *uu* and paddle club, being heavy and of unwieldy length. The natives of the Society Islands used clubs of two types, one a short bludgeon, the other a long club with a sharp edged lozenge shaped head. Examples of the long club examined strongly resemble the spears of the Cook Islands which in turn, appear to be copies of metal prototypes. The Maoris used several types of club which seem to fall into two classes, long staves and short, sharp edged weapons, such as the mere. The Maori weapons are well known. In Samoa and Tonga we find a great variety of clubs, most of which are of types also found in Fiji. These weapons have been fully described by Churchill (69). As a whole they show little resemblance to the forms found in marginal Polynesia. Even the nuclear Polynesian paddle clubs bear much less resemblance to those of the Marquesas than the Marquesan ones show to some Melanesian weapons, notably those from the Solomon Islands.

No clubs at all resembling the Marquesan *uu* appear in other parts of Oceania, and it seems certain that it is a local development. If we ignore its decoration we find that the *uu* differs from the paddle club only in the thickening of the end and the lateral knobs. The handles of the two types are identical, and in both the head has a rounded outline, flat oval cross section, and sharp edges. It is evident that the *uu* as a whole represents a highly conventionalized face to which the knobs bear the relation of ears. As projecting ears are a common fea-

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

411 ture of Marquesan figures it is quite possible that the knobs might be added to
● 171 a paddle form on which a face had been carved with the idea of rendering the
532 human likeness more complete.' The thickening of the end is more difficult to account for, but this also may have arisen from the native artistic convention which calls for wide curves over the eyes. It is but a slight step from the paddle club to the *uu*. Evidence of the priority of the paddle club is offered by the use of small replicas as chiefs' insignia.

411 The distribution of narrow-bladed staves is especially interesting. In Polynesia their use appears to have been limited to two localities, the Marquesas and New Zealand, with a related form in Easter Island. The Marquesan staves are as a rule longer than those from New Zealand, but the blade form is practically identical, the differences between the two types lying in the treatment of the upper end, or head, which in New Zealand was usually carved into a head with a projecting, pointed tongue, and in the Marquesas was finished with a pompom of human hair. In both, the shaft immediately below the head was covered with a woven sleeve. The Easter Island implements are clearly related to these staves, but differ from them in having a broader blade, no sleeve, and an upper end carved into two heads placed back to back. The Marquesan staves grade into the paddle clubs, although they always retain the characteristic decoration of the head. As paddle clubs appear to be lacking in both New Zealand and Easter Island it seems improbable that the stave was developed from this weapon. Certain Melanesian digging sticks now in the Field Museum are identical in blade form with the Maori and Marquesan staves, and there are even a few examples in which the upper ends are carved and decorated. A. B. Lewis of the Field Museum says that he has frequently seen digging sticks employed as staves by the older men in Melanesia, and it would appear not improbable that the staves of the Maori and Marquesans have been derived from some such tool. The fact that the Maori stave was an important weapon does not militate against this assumption, as even among the Maori digging sticks were sometimes used as weapons while many of the Melanesian examples are known to have been used interchangeably as tools and clubs. The Fijian chiefs' staves lack the flattened blade, just as do many of the Fijian digging sticks.

It is rather curious that large weapons edged with sharks' teeth appear to have been entirely lacking in the Marquesas, although at least two forms were in use in the Society Islands (Ellis, 71, p. 297, p. 413).

Weapons resembling the Marquesan double pointed spike (*ake henua*), were rather common in Hawaii, while a related form was important in the Society Islands. Their use in Samoa and Tonga seems doubtful, although the data from those islands is still too incomplete to allow of a definite statement.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

XYLOPHONE

534

According to Handy, the natives of Nuku Hiva used an instrument called ***pahu kou hau*** which consisted of ten flat pieces of hau wood resting upon two slender transverse sticks. It was beaten with two sticks held in the hands. This instrument was evidently a primitive xylophone and, if aboriginal, is of considerable interest.

COMPARISON

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Two quite distinct types of large drum were used in Polynesia. In Hawaii, the Marquesas, the Society and Cook islands, the drums were tubular, with a skin head, and stood on end; most of them were provided with a pierced base cut in one piece with the body. They were beaten with the hand. In Samoa and Tonga, on the other hand, the large drums were canoe shaped, closed at the ends, but with a long opening on one side. They were laid on the side, and were beaten with short clubs. In New Zealand, where one might expect to find the tubular, skin headed drum, the drum was of western Polynesian type. The great wooden gongs of New Zealand appear to have no Polynesian parallel The large tubular drum is unknown in Melanesia, although the principle of this drum is used in small hand instruments. The long slotted drum on the other hand is almost universal. It seems possible, therefore, that the use of the long slotted drum in Samoa and Tonga is due to Fijian influence.

Wooden trumpets appear to have been used in only two Polynesian localities, the Marquesas and New Zealand. The instruments from these regions have little more than the principle in common, however, the Maori examples being much more elaborate. The wooden trumpet does not seem to have been used in Micronesia, and its Melanesian occurrence is limited to a single locality; the interior of northern New Guinea on the Sepik River.

Shell trumpets were used everywhere in Polynesia. In Hawaii the trumpet was made from a species of Cassis, in the Marquesas of both the Cassis and Triton, and in the Society Islands and New Zealand from the Triton. A separate mouth piece was used in the Marquesas, the Society Islands and New Zealand. In Melanesia trumpets made from the Triton shell are almost universal, and a species of Cassis is used in a few localities, but separate mouth pieces appear to be unknown.

The nose flute appears to have been used everywhere in Polynesia except Samoa. Mouth flutes, on the other hand, are found everywhere except in Hawaii, although Krämer believes their presence in Samoa to be due to Fijian or Tongan influence. Cook noted a tunable nose flute in the Society Islands. In Melanesia the nose flute is found in Fiji and in one or two other localities, but

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

534
171

it is not common. Mouth flutes are rare in Melanesia, but a type with two holes was used in New Caledonia.

Whistles were used in the Marquesas and in New Zealand. They do not seem to have been used elsewhere in Polynesia.

A Jew's harp practically identical with that found in the Marquesas was used in Hawaii, while a crude form of this instrument also is found in New Zealand. It does not seem to have been used in Western Polynesia. In Melanesia the Jew's harp is important only in the Solomon Islands, but the instrument used there differs so radically from the Marquesan, both in form and method of playing, that relationship seems improbable.

The occurrence of the musical bow in Polynesia seems to have been limited to the Marquesas and Hawaii. The Hawaiian instrument, *ukeke* (Emerson, 72, p. 147), had three strings, and it is possible that the Marquesan "lyres" bore some relation to it. In Melanesia a single stringed musical bow, which was tapped with a stick as in the Marquesas, was used in New Caledonia. A two-stringed bow, quite different in principle from the Hawaiian *ukeke*, was used in the Solomon Islands.

A joint of bamboo slotted along one side, laid on the ground and beaten with two sticks, was used as a musical instrument in Tonga, the Cook Islands and the Society Islands, but was not used in Hawaii or the Marquesas and is naturally lacking in New Zealand. In Melanesia it seems to have been limited to the south coast of New Guinea.

The use of a series of joints of bamboo which were held vertically and beaten upon the ground seems to have been limited, in Polynesia, to Samoa and Tonga. A curious drum made from several joints of bamboo lashed together, the heads covered with matting, seems to have been limited to Samoa. In Polynesia pan pipes of bamboo were limited to Tonga.

Although the distinction between the marginal and western divisions of Polynesian culture is less clearly marked by musical instruments than by houses or stone artifacts, it is possible to distinguish a few features. The large cylindrical drum with a skin head is an element of the eastern or marginal culture; the slotted drum is distinctively western. The reversal of this rule in New Zealand does not seem enough to invalidate the general conclusion. The Jew's harp also appears to be an element of the marginal culture. The wooden trumpet and whistle are limited to New Zealand and the Marquesas. In view of the absence of the nose flute in Samoa it seems possible that this also was originally a feature of the marginal culture and that its presence in Tonga is due to the strong Fijian influence. The slotted bamboo, on the other hand, and the series of joints of bamboo thumped on the ground, appear to be features of the western culture.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

EAR ORNAMENTS WORN BY MEN OR WOMEN

301 The pair of very simple ear ornaments shown on Plate LXXIX, *D* are made from heavy white shell, probably the lip of the Tridacna. One end is carved in imitation of the caps on women's ear ornaments of the *taiana* type. The remainder of the ornament is a simple spur, which, in one specimen, is perforated about midway between the base of the large end and the tip. It has been suggested that these objects were used to keep open freshly perforated holes in the ears.

A number of ear ornaments which appear to be intermediate between the *taiana* and *haakai* types have been preserved. Certain specimens in the American Museum of Natural History are shaped and carved like the spurs of the *haakai*, but are provided at the forward ends with shell caps identical with those used on the *taiana*. A specimen in the Peabody Museum of Harvard University resembles still more closely the spur of a *haakai*. It is made of whale ivory, and has a tiki figure in high relief carved on one side and two smaller figures on the tip. The inner end is blunt and irregular, but there are no indications that it has ever been attached to a disc. It was probably fitted with a shell cap. A specimen in the American Museum of Natural History seems to be a modification of the *haakai* type, but is made from shell. The forward end is worked into a disc considerably larger than the usual shell cap, while the spur is carved with a tiki figure in high relief.

COMPARISON

301 171 The only Marquesan ear ornament for which there is any parallel in the Pacific is that made from tortoise shell, porpoise teeth and beads. This ornament bears some slight resemblance to those worn on the Island of Yap, of which Furness (74, p. 62) says:

> [This] ear ornament is a piece of thin tortoise shell, about a third of an inch wide, bent in the form of a "U"; this is hooked in the lobe of the ear and from the outer ends are suspended little strings of beads.

The more typical Marquesan ornaments of bone, shell and ivory are unlike those used in any other part of Oceania, and must be considered as a local development. The peculiar practice of placing the most highly decorated part of the ornament behind the ear, where it can be seen only on side view, is almost unique.

HEADDRESSES

292 237 A great variety of headdresses were used by the Marquesans. In Nuku Hiva at least the most important of these appears to have been a crest of black cocks' plumes, called *taavaha* or *taavaha pepana* (Handy). A well-preserved

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

CEREMONIAL OBJECTS

There are a number of Marquesan objects which probably had a religious or ceremonial significance. The most interesting of these is a tapa covered object hewn from a single piece of breadfruit wood (Pl. LXXXIV, *A*) which is listed in the Bishop Museum catalog as an idol.

The lower part or body is in the form of a thin flat tablet. The upper part, or head, juts out sharply from the body in front and protrudes slightly beyond it in the rear. The two sides of the face are slightly concave, meeting in a sharp longitudinal keel. The interior of the head has been roughly hollowed out from the rear, probably to reduce the weight of the object. Two short double pointed sticks of fau wood, only one of which is now in position, were fastened to the back of the head transversely. They were attached with sennit cords which passed through holes in the edges of the object. The body, and the front, top and sides of the head, are covered with ute tapa, which was evidently put on while moist. The back of the head does not seem to have been covered. The tapa is gathered in a knot on the top of the head, and is glued together on the back of the body so skillfully that the joining is hard to detect. The whole object, exclusive of the back of the head, is covered with designs painted in red and black. It is evident that the designs upon the front of the head are intended to represent two large eyes, while bands along the lower edge of the head and on the upper part of the body represent the upper and lower jaws of an open mouth. The spaces around the eyes and inside the mouth, and the front and back of the body, are filled with decorative designs most of which seem to be tattoo designs. The painting was evidently done free hand, and shows considerable skill.

The rough finish of the back of the head in this figure suggests that it was formerly attached to some object in such a way that this part was concealed, but the body of the figure is painted on both sides. Although we have no information as to the use of such figures, it seems possible that they were attached to the beams of houses in *me'ae*, the back of the head resting against the beam and the body hanging below it. Tapa covered bird effigies, painted red, were placed on the ridge pole of the tall pyramidal sacred house at Pua Ma'u, Hiva Oa.

The use of effigies covered with painted tapa in the Marquesas brings to mind the similar Easter Island practice. The figures from the two localities have little more than the principle in common, but in view of the complete absence of such figures elsewhere in Polynesia even this is significant. They are not recorded from Micronesia, and even in Melanesia we find no close parallels, except in New Britain where the Baining are said to make huge tapa covered figures thirty feet high (Lewis).

Small wooden figures were probably made by the Marquesans in ancient times, although the few examples known seem to be post-European. There is no definite information as to their use, but they may have been employed for the same purpose as the small stone figures. (See p. 345.) Plate LXXXIV, *B*, shows a modern wooden figure which is interesting chiefly as an example of the breaking down of the old artistic convention under European influence. The proportions of the body and legs, and the modeling of the legs, are much more naturalistic than in the old stone figures. The arms on the other hand, are smaller in proportion to the figure than those of the old statuettes. The head is more nearly in

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

A number of interesting records for songs and stories are also figured and described by Von den Steinen. One record (56, p. 111-113) has a body in the form of a woven sack, as large as a child's head. The knotted record was attached to the edge of the sack, and when not in use was kept coiled up within it. The sack was kept hung up by a handle in the house of the *tuhuna*, and was supposed to contain a great number of spells and stories, all of which could be related by the aid of the single cord. Another record is very elaborate. It has a short body, covered with white tapa and decorated with plaited coconut leaves and bunches of midribs of coconut leaflets. To this are attached seven cords for songs and twelve for *mata*. All of these were recited in regular order. Still other small records, of the general type shown on Plate LXXXIV, *E*, were used to instruct chiefs' children in chants. One record (56, fig. 5) is woven from fau bark, an unusual material for these objects.

Von den Steinen (56, p. 113) reproduces a drawing by Porter, entitled "God of the Taipis." It is in the form of a human figure, woven from sennit, and from the loops surrounding the top of the head is identifiable as a string record. Von den Steinen says that the use of these records in the Marquesas seems to have been limited to the islands of Tau Ata and Hiva Oa. An incomplete specimen was, however, collected in Fatu Hiva, and the object from Nuku Hiva figured by Porter seems to prove their existence in the northern part of the group.

String records were used to keep record of taxes in Hawaii, of songs in the Cook group, and of geneologies in New Zealand.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

CONCLUSION

In spite of the large amount of literature dealing with Polynesia, few parts of this vast region have been carefully studied and there is no part for which the information can be considered at all complete. New Zealand is probably the best known locality. Satisfactory, but by no means complete, information is available for Hawaii and Samoa and the present activities of Bishop Museum will contribute additional information regarding Tonga, the Austral Islands and the Marquesas.

Accounts of the culture of single localities are chiefly valuable as a basis for the careful comparative study, which alone can throw light on the relations of the various Polynesian groups and ultimately on the larger questions of Polynesian origin and diffusion. The final solution of Polynesian problems can come only from a correlation of the evidence along all lines. Comparative studies based on a single class of evidence—traditions, religion, material culture or physical type—serve to arrange the data in order and make them available for such correlation. Theories based upon such partial studies can only be tentative but are justifiable on the basis of Bacon's dictum that truth can be brought out of error much more readily than out of chaos.

Recent studies of physical type have proved conclusively that the Polynesians are not a pure race but are made up of at least three racial elements (70). These elements are a dolichocephalic negroid race, a dolichocephalic or mesocephalic race which shows Caucasic affinities, and a brachycephalic race with slight Mongoloid affinities which Sullivan calls Indonesian (79, *b*, p. 18). The frequency and distribution of the two non-negroid races seems to indicate that they entered the region in nearly pure form. All three races are present in most of the Polynesian islands but they vary in the proportion which they bear to the total population of each group. The negroid element is strongest in Easter Island but is important in northern New Zealand and is found throughout southeastern Polynesia. The Caucasic element is strongest in northern New Zealand and the Marquesas. The Indonesian element is strongest in Tonga but is important in Samoa, southern New Zealand, Hawaii and the northern Marquesas.

Polynesian material culture shows an even more complex condition. The climate and products of all the Polynesian islands except New Zealand are so nearly the same that local difference in culture can not be ascribed to environmental causes, but it is hard to determine which of them are due to differences in the culture of the original settlers of each group. Many of the Polynesian groups are separated from their nearest neighbors by hundreds of miles of open sea and must have originally been settled by very small parties of immigrants. The *tuhuna* system, which placed the more important industries in the hands of

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

171 a few skilled workmen, was highly developed among the historic Polynesians and
101 when an immigrant group included no *tuhuna* of a given trade, that element of their original culture would tend to be lost or considerably modified. Primitive cultures are not static, and isolated populations come, in time, to have distinctive cultures. The legendary history of Polynesia points to long periods of quiescence and comparative isolation interspersed with periods of great nautical activity. Features which had been developed locally during a period of isolation might be carried to far distant groups during a succeeding period of voyages. The Polynesians were not conservative and it would have been possible for an immigrant group, too small to materially affect the physical type of an inhabited island, to profoundly modify its culture. Even during the periods of quiescence there was probably intermittent contact between the Polynesian islands through the medium of castaways. Some of the involuntary voyages which have occurred in Polynesia during the historic period have covered great distances, and the vagaries of winds and currents have sometimes carried canoes past many intervening islands to landfalls thousands of miles from their starting points. Castaways were usually well received and although they could hardly have brought about any major changes in culture they may very well have introduced single features such as folk tales, superior mechanical appliances, or new forms of ornaments. Western Polynesia was exposed to influences from both Micronesia and Melanesia. There is known to have been considerable contact between Samoa and the Gilbert Islands; and both Samoa and Tonga have been strongly influenced by Fiji.

171 In the preceding chapters of this publication a number of resemblances have been pointed out between the elements of Marquesan material culture and those of other parts of Polynesia. The distribution of the more important cultural traits in the Marquesas, New Zealand, Hawaii, the Society Islands, Samoa and Tonga is shown in the accompanying tables. Traits which are everywhere present in identical form, and traits which are limited to a single locality, have been omitted. The distribution of a few of the more important traits of non-material culture is also shown.

171
342

Comparative Table Material Culture

Houses

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Platform	Constant, large, rectangular	Absent	Nearly constant, rectangular	Rare in historic times, rectangular	Limited to temples and chiefs' houses, oval	Rare or lacking
Shape	Rectangular	Rectangular or round (South Island)	Rectangular	Oval or rectangular	Oval, nearly round	Oval
Framework	Ridge pole and end posts	Ridge pole and end posts	Ridge pole and end posts or rigid triangle roof support	Indirect ridge pole support or end posts	Three posts together in center and ridge pole; detachable apses	Indirect ridge pole support, end posts not used
Entrance	Side	End	Side or end	Side	Sides of house open	Side
Door	Wooden slide door or mat	Wooden slide door	No door or mat hung in doorway	No door or mat hung in doorway	----------	Mat door
Interior	Permanent division into floor and bed	Permanent division into floor and bed	Division into floor and bed common but not constant	No division in historic houses; present in ancient times	No internal division	No internal division
Decoration	Ornamental lashings, posts carved with designs and into Caryatid figures	Posts carved into Caryatid figures, carved panels, woven panels, painted rafters	Rudimentary ornamental lashings, no carved decoration	Ornamental lashings, no carving	Ornamental lashings, no carving	Ornamental lashings, no carving
Furniture	No stools, permanently fixed log pillows, soft pillows	No stools, soft pillows or solid wooden pillows	Stools (rare) soft pillows	Stools, legged pillows	Legged pillows, no stools	Legged pillows, no stools
Houses on posts	(Fata'a) Store house and dwelling for old men; elaborately decorated	(Pataka) Store house for food and tapa objects; elaborately decorated	Men's house, no decoration	Small storage places for sacred objects	No houses on posts	Occurrence of store houses on posts uncertain
Sacred houses	High roofed	No sacred houses except those for instruction, these like dwellings	Like dwellings, also tapa covered pyramidal structures	Like dwellings	Like dwellings	Like dwellings

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

● 171 501

Comparative Table Material Culture—Continued

Canoes

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Construction	Five pieces, dugout body, bow and stern pieces, two side planks; plank canoe also used as rare form	Five pieces, dugout body, bow and stern pieces, two side planks; no plank canoes	Five pieces, dugout body, bow and stern pieces, two side planks; plank canoe known	Made of several courses of planks cut to fit together accurately	Made of several courses of planks cut to fit together accurately	Made of several courses of planks cut to fit together accurately
Bow	Long projection, horizontal or slightly curved upward; head carved on outer end	Long horizontal projection; head or figure carved on outer end	No projection, small upturned knob	Long projection, horizontal or curved upward; small figure sometimes carved on outer end	No projection, upper surface decorated with shells and carved knobs; figureheads used in ancient times	No projection or decoration
Stern	High upward curving plank	High upward curving plank	Small upturned knob, no ornament	Whole body of canoe curved upward for some feet	No projection; decorated like bow	No projection or decoration
Seams	Covered with strips inside and out; strips blackened and decorated with white feathers at the lashings	Covered with strips inside and out; strips blackened and decorated with white feathers at the lashings	Not covered with strips	Not covered, outside of canoe rubbed down to give a smooth close joint at seams	Not covered, outside of canoe rubbed down to give a smooth close joint at seams	Not covered, outside of canoe rubbed down to give a smooth close joint at seams
Lashings	Visible both inside and out	Visible both inside and out	Visible inside, almost concealed outside	Invisible outside	Invisible outside	Invisible outside
Decoration	Elaborate carving on bow, stern and side planks	Elaborate carving on bow, stern and side planks, also painting	No decoration	Small figures and other carving on bow and stern	Slight use of carved decoration	No decoration
Double canoe	Two canoes of equal size temporarily connected	Rarely used; two canoes of equal size	Two canoes of equal size	Two canoes of equal size temporarily connected	Canoes of different size permanently connected	Canoes of different size permanently connected
Sail	An inverted triangle with the apex at the foot of the mast	An inverted triangle with the apex at the foot of the mast	An inverted triangle with the apex at the foot of the mast	Modified form of the inverted triangle sail	Inverted triangle sail and latteen sail suspended from the mast head	Latteen sail suspended from the mast head

171
324

Comparative Table Material Culture—Continued

Stone Artifacts

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Tanged adz	Dominant form	Dominant form	Over 90 per cent of all adzes	Dominant form	Rare	Not used
Cross section	Triangular or rectangular	Rectangular, triangular forms rare	Rectangular	Triangular	Triangular	————
Finish	Rough, complete grinding rare	Completely ground, rough finish rare	Rough, complete grinding almost unknown	Complete grinding, rough finish rare	Complete grinding unknown, very crude	Complete grinding normal
Tangless adz	Secondary importance	Secondary importance	Very rare	Rare	Normal type	Only type
Axes	Not used	North Island only	Not used	Found archaeologically, historic use doubtful	Not used	Not used
Melanesian forms	Not found	Present, distribution unknown	Not found	Found archaeologically	Not reported	Many adzes of Fijian form or manufacture
Pounders	Flat and phallic tops, flaring base, tops sometimes carved	Tops round or carved into head, no flaring base	Tops flat, or hemispherical, flaring base	Cross grip with projecting ends, flaring base	No stone pounders	No stone pounders
Pestles	Not found	Present	Common	Common	No stone pestles	No stone pestles
Carved sticks	Rare	Found on north cape, form closely similar to Marquesan one	Not used	Not found	Not used	Not used
Small figures	Fish and human, common	Human, common on North Island	Fish and human, rather rare	Fish and human, rare	Not used	Not used
Large figures	Common	Rare, limited to localities with tufa deposits	Present but rare, crudely made	Not used	Not used	Not used

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

171
415
411

Comparative Table Material Culture—Continued

Containers

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Boxes	Oval, often lidd form, tight cover	Oval, tight cover	Round, tight cover	Present, form unknown	Round, tight cover	No data
Bowls with legs	Not used	Not used	Present but rare	Oval form common	Common	Common

Weapons

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Clubs	Paddle club and ax, no bludgeon or throwing club	Characteristic local forms	Short bludgeon, stone headed club (rare); throwing club	Bludgeon, modified paddle club, sickle club, no throwing club	Many types, mostly of Fijian origin, throwing club important	Many types, mostly of Fijian origin, throwing club important
Short tooth weapons	Knives, no true weapons	Knives, no true weapons	Knives, no true weapons	Many pronged weapon and sickle	Not used	Not used
Bow	Toy and for fishing	Used traditionally as weapon	Toy and for rat hunting	Used in chief's game	Toy and fishing	Important weapon
Sling	Important	Occasionally used as weapon, also toy	Important	Important	Common	Little used
Sling stone	Double conical	Not shaped	Double conical	Not shaped	No data	No data
Throwing cord	In games only	Stick with cord	Not used	Not used	Not used	Not used
Spear with head cut to break off in wound	Present	Several types	Not used	Not used	Not used	Not used
Chiefs' cloth	Important, blade flat, upper end enclosed in woven sleeve, top decorated with hair	Important, blade flat, upper end enclosed in woven sleeve, top carved	Not used	Not used	Not used	Not used
Armor	Not used	Several thicknesses of mats	Thick mats and wicker helmets	Breast plates of heavy fiber, helmets	One piece suit like Gilbert Islands, very rare	Not used

171
534
526

Comparative Table Material Culture—Continued

Musical Instruments

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Shell trumpet	Cassis and triton shells, latter with separate mouth piece	Triton shells with separate mouth piece	Cassis shells, no separate mouth piece	Triton shells, separate mouth piece	Triton shells, no separate mouth piece	Triton shells, no separate mouth piece
Wooden trumpet	Important	Important	Not used	Not used	Not used	Not used
Drum	Vertical cylindrical with skin head	Canoe shaped, also wooden gongs	Vertical cylindrical with skin head	Vertical cylindrical with skin head	Horizontal slotted	Horizontal slotted
Mouth flute	Important, one form tonable	Important, no tonable form	Not used	Not used	Present but rare	Rare or absent
Nose flute	Important	Present	Important	Important	Not used	Present
Musical bow	Present	Not used	Highly developed, with three strings	No data	Not used	Not used
Jew's harp	Present	Not used	Form identical with Marquesan	No data	Not used	Not used
Slotted bamboo	Not used	Not used	Not used	Important	(?)	Not used
Lengths of bamboo beaten on ground	Not used	Not used	Present	Not used	Important	Present

Toys

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Sticks	Important	Present	Present but rare	Present	Not used	Not used
Surf board	Present	Present	Important	Present	Present	Not used
Dart throwing	Important	Important	Present	Present	Present	Present
Reading	Not used	Not used	Important	Not used	Not used	Not used
Coasting	Not used	Children only	Important	Not used	Not used	Not used
Kites	Present	Important	Present	Children only	Not used	Not used
Draft game	Not used	Present	Present	Not used	Not used	Not used

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

171
304
287
301
299
297

Comparative Tribal Material Culture--Continued

Dress and Ornament

	Marquesas	New Zealand	Hawaii	Society Islands	Tuamotu	Tonga
Tattooing	Men completely tattooed; women on legs, arms and lips	Men tattooed on face and thighs, body tattoo rare, women on lips and chin	Men sometimes completely tattooed except face	Men tattooed on body and limbs but not on face; women on hands, leg and arms, also a girdle	Men tattooed on face; women on arms and legs	Like Samoa
Tapa making	Beater, hollow wooden and solid wooden anvils; square and round beaters, grooves but no water marks	Obsolete, no data on manufacture	Hollow wooden anvil, square and round beaters, beaters with water marks or grooves	Hollow wooden anvil; square beater with water marks on one or two ends, other sides grooved	Smooth log, not hollowed, square beater, grooved on three sides, no water marks	Like Samoa
Tapa decoration	Dyed yellow	----------	Painted, stamped with bamboo stamps or flowers (rare)	Free hand painting, stamped with flowers or leaves	Free hand painting and stamping over curved block	Free hand painting and stamping over curved block
Feather work	Feathers pasted on bark; no feather cloaks	Feathers caught into woven fabric; feather cloaks important	Feathers caught into netted fabric; feather cloaks important	Feathers caught into netted fabric; no feather cloaks	Woven in edge of fine mats	No data
Necklaces of many strands of braided hair	Important	Not used	Important, part of chief's insignia	Portion of many strands of braided hair, on one lines	Not used	Not used
Fans	Highly decorated, carried by chiefs	No data	Highly decorated fans sometimes used by chiefs	Elaborate but not ceremonial	Elaborate but not ceremonial	Elaborate but not ceremonial
Fly flap	Not used	Not used	Elaborately decorated feather flaps part of chief's insignia	Elaborately carved, ceremonial (?)	Carried by speaker chiefs	Common, ceremonial (?)

Comparative Table Material Culture—Continued

Art

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Carving	High development with application to houses, canoes, tools and utensils	High development with application to houses, canoes, tools and utensils	Poor development, not used on houses, canoes or tools, a few art stalks decorated with figures carved in round	Moderate development, applied to canoes and some utensils	Poor development, applied to canoes (rowing) and weapons	Poor development, weapons only
Tattoo	Red cord	Lines of images only	Lines of images and a few curvilinear	Rare or absent	Fine cord, curved designs on weapons filled with lines	Circles, weapons only
Painting	Practically absent	Applied to rafters, canoes and images	Vases only	Vases only	Vases only	Vases only
Designs	Curvilinear or angular geometric; spiral predominant; use of conventional forms or figures as decoration; floral and animal forms rare	Curvilinear, angular geometric designs rare; spiral predominant; use of conventional forms or figures as decoration; floral and animal forms rare	Angular geometric designs with a few floral; spiral absent; human or animal forms not used	Angular geometric or circles, no spirals; human and animal figures in various floral designs or tapa	Angular geometric or floral; several rare or lacking; human and animal figures (netting) on weapons	Angular geometric or floral; no spirals; figures rare or lacking
Treatment	Surface divided into areas or sections which are treated separately, or a total representation of designs	Surface divided into a few large sections or treated as a whole; superposition of designs common	Designs applied to surface of vase only; no design superposition	Carved surfaces divided into sections treated separately; tapa surface treated as whole; no design superposition	All surfaces divided into sections treated separately; no design superposition	All surfaces divided into sections treated separately; no design superposition
Human figures	Conventionalized only	Conventionalized and naturalistic	Conventionalized and naturalistic	Conventionalized, very crude	Well and fine detailed portrait	Rare, no detail or form

Conventions of Human Figures

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Leg	Half flexed	Half flexed	Half flexed	Half flexed		
Arms	At sides, hands on abdomen or one hand to mouth	At sides, hands on abdomen or one hand to mouth	At sides, hands on hips, Hand to mouth gesture not used	At sides, hands on abdomen or one hand to mouth		
Hands	Five fingers of equal length, outer fingers connected by ground behind three inner	Three fingers of equal length	Five fingers when indicated	Five fingers or not indicated		
Body	Formed by a series of planes meeting at well defined angles	Simple treatment, rounded contours	Formed by a series of planes meeting at well defined angles or else no treatment with rounded contours	Formed by a series of planes meeting at well defined angles and treatment of simple treatment with rounded contours		
Mouth	Exaggerated, oval, protruding tongue	Exaggerated, toothed or figure eight, form, protruding tongue	Exaggerated toothed or figure eight form or oval (in naturalistic figures); protruding tongue, common in naturalistic figures	Exaggerated, oval, protruding tongue, or not uniform mouth		
Nose	Flat, not exaggerated	Nostrils exaggerated, bridge of nose not shown in many cases	Nostrils exaggerated, bridge of nose not shown in some cases	Higher than Marquesas conventional and more naturalistic, nostril exaggerated		

7: Linton E-5 (1926-1927) 1929 OX6 Marquesas OX6
177
531
532

?: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6
Memoirs Bernice P. Bishop Museum
496
171
924
993
592
764

Comparative Table Material Culture—Continued

Stone Construction

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Eye	Broadly oval to round, encircled by raised rim; straight or with slight upward thrust	Narrow pointed oval, pronounced upward thrust	Narrow pointed oval, pronounced upward thrust, also straight eyes (less common)	Pointed oval encircled by raised rim; eye sometimes omitted	———	———
Brows	Exaggerated, high, arched	Exaggerated, high, arched	Exaggerated, high, arched	Exaggerated, high, arched or straight	———	———
Simple stone	Highly developed, wall terrace and platform	A few extensive structures, little or no stone construction in recent times	Highly developed, wall, terrace and platform	Well developed, wall, terrace and platform	Ill-defined development, wall and platforms. Large ancient structures	Moderate to poor development, were said to "adorn"
Cut stone	Highly developed, rectangular slabs set on edge to face terraces or platforms	Not used	Rare, rectangular slabs set on edge to face terraces or platforms	Highly developed, rectangular slabs set on edge to face platforms, central forms	Pale o le Fe'a only; stone pavo	Highly developed, rectangular slabs set on edge to face platforms and trilithon

Mortuary Practices

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Mummification	Normal; evisceration by anus and rubbing with coconut oil; in dwelling or special house	Rare in historic times; evisceration by anus, rubbing with oil and smoking, special house	Not practised, temporary preservation by filling body with ash or by ventilating	Normal; evisceration thru incision and rubbing with coconut oil, in special house, anciently in dwelling	Practised by one family only; method like Society Islands	Not practised
Earth burial	Rare, limited to priests and diseased or leprous; flexed position (?)	Rare, usually limited to slaves, flexed position	Lower chiefs, some priests, commoners; chiefs and priests extended, commoners usually flexed	Limited to lowest class, flexed position	Normal; extended position	Normal, extended position
Body kept until disintegration	Normal	Normal	Rare; decay hastened by burial and fire	Normal	One family only (see mummification)	Not practised
Disposal of bones	Placed in cave or sacred place; skulls of chiefs preserved	Placed in cave or hollow tree; heads of chiefs sometimes preserved	Kept in dwelling, in special house or in sacred place or placed in caves	Skulls preserved, bones buried in sacred place or put in cave	Skulls of chiefs sometimes kept	———
Vaults	Priests only, form of vault unknown	Not used	Vaults in platforms, priests and lower chiefs (?)	Not used	Rare if present	Stone vaults in mounds (langi) used by all chiefs

[1924]

Comparative Table Material Culture—Continued

Miscellaneous Features

	Marquesas	New Zealand	Hawaii	Society Islands	Samoa	Tonga
Cannibalism	Highly developed	Highly developed	Absent	Absent	Present traditionally	Introduced from Fiji
Headhunting	Highly developed, skulls of enemies decorated and preserved	Highly developed, heads preserved	Absent	Heads of enemies taken but not preserved	Heads of enemies taken but not preserved	Enemy heads not preserved
Government	Chiefs of little power, power greater in northern islands; no overlords, loose tribal confederation	Chiefs, no overlords, loose tribal confederacies	Highly organized, chiefs and overlords; large political units	Highly organized, chiefs and overlords, large political units	Tribal organization, confederacies with high chiefs	Highly organized, whole group a political unit
Personal divinity of chiefs	Suggested in northern islands only	Chiefs god descended	Highly developed	Highly developed	Highly developed, speaker chiefs with real power	Highly developed, divine chief with little secular power
Religion	Ancestor worship, great gods known but ignored	Worship of great gods and a host of minor deities, ancestor worship not important	Worship of great gods and ancestor worship	Worship of great gods, family ancestor worship	Village gods embodied in animals, no true ancestor worship	Worship of dead chiefs; great gods secondary
Priesthood	Organized within tribe, inspirational and ceremonial priests	Priest-chiefs and wizards, no regular organization	Highly organized, ceremonial priests important	Highly organized, ceremonial priests important	Priests and priest-chiefs, no regular organization	No organized priesthood, inspirational priests important
Human sacrifice	Highly developed	Common	Highly developed	Less developed than in Hawaii or the Marquesas	Not used	Not used
Sacred structures	Platforms or terraces with temporary houses, large stone enclosures with both secular and religious functions	No permanent sacred structures; sacred houses for instruction of young men	Stone enclosures taps to all but chiefs and priests, also platforms	Stone enclosures with pyramid at one end; commoners admitted to enclosure but pyramid taps to them.	Village house or small house on platform	House on pyramid containing burial vault
Education	Organized instruction for both men and women in special house	Organized instruction for young men in special house	No organized instruction	No organized instruction	No organized instruction	No organized instruction

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

171 174 It can be seen from the tables that Samoa and Tonga show a closer cultural agreement than any other two Polynesian localities. The Marquesas and New Zealand show an almost equally close agreement. The Society Island culture occupies an intermediate position with numerous resemblances to both the Samoan-Tongan and Maori-Marquesan cultures. The Hawaiian culture resembles the Maori and Marquesan on the material side, but its non-material features are more closely related to those of the Society Islands and western Polynesia.

The Maori and Marquesan cultures show so many similarities that, in the absence of historic contact, they must be considered as not very divergent developments of a single ancestral culture. The content of the various New Zealand culture areas outlined by Skinner (78) has not yet been established, but most of the traits common to New Zealand and the Marquesas seem either to have been limited to the north island or to have been much more highly developed there. According to Maori traditions the north islanders were descendents of immigrants who came to New Zealand from Tahiti and the Cook Islands in the twelfth century (Smith, 79, p. 223). The traditions of the southern Marquesans indicate migration from Tahiti and the Cook Islands, and mention groups still farther to the west. It seems practically certain, therefore, that a culture similar to the historic Maori and Marquesan cultures formerly existed in southeastern Polynesia.

The Maori and Marquesan cultures differ from the Samoan and Tongan cultures in so many respects that the two complexes must have been largely derived from different sources. The original cultures of Samoa and Tonga probably differed considerably from the historic ones. Cannibalism and the use of the bow as a weapon in Tonga, and the elaborate club forms of both Tonga and Samoa were due to Fijian influence. The Samoans ascribe the introduction of tapa making to a Fijian chief and their tapa making implements are almost identical with the Fijian ones. The slotted drum was almost certainly borrowed from Fiji. Legged pillows were probably borrowed from Fiji, where the form of the coiffure made them necessary. Legged utensils may also have been borrowed as such utensils are more numerous and of more diverse form in Fiji than in either Samoa or Tonga. Even the use of round or oval houses may not have been a feature of the original Samoan-Tongan cultures for round houses are practically absent in Indonesia and Micronesia but are found in both Fiji and New Caledonia.

The western Polynesian cultures have many features in common with Micronesia. The resemblances seem to be more marked in the Caroline and Marshall groups than in the Gilbert Islands. Micronesia is still too imperfectly

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

known to permit of detailed comparison, but the Caroline and Marshall cultures have in common with the Samoan-Tongan culture a considerable development of chiefly power with a tendency toward fixed social classes; extended earth burial, often with orientation; the use of many piece canoes and lateen sails; and a high development of mat weaving with the use of mats for clothing. Many other features of the Samoan-Tongan culture are also found in Micronesia but are less universal in their occurrence. Although it is possible that these features were borrowed from Micronesia by the western Polynesians, it seems more probable that the original culture of the Samoans and Tongans was essentially Micronesian in type.

The affiliations of the Hawaiian culture are difficult to establish. The Hawaiian culture resembles the Maori and Marquesan cultures in the form and internal arrangement of houses; canoe structure and sail; use of the stone pounder and tanged adz; stilts and surf board; in the use of human effigies and in the conventions applied to them; also in the rarity of utensils with legs and absence of legged pillows. It shares with the Marquesas the use of stone house platforms; extensive ceremonial structures of stone; a pounder with a flaring base; prepared sling stones; the musical bow; the large vertical drum with a skin head; and necklaces made from many strands of plaited human hair. These features are lacking in New Zealand. The Hawaiian culture also has a few features in common with the Society Islands which are lacking in the Marquesas. The most important of these are an organized priesthood; a centralized government with divine chiefs; and the use of netted featherwork, helmets, flyflaps, painted tapa decoration and watermarked tapa beaters. Many voyages between Hawaii and the Society Islands were made from 1100 to 1300 A.D. (Smith, 79 *a*, p. 223) and according to Hawaiian traditions the use of enclosed religious structures, the vertical drum, human sacrifice, increased centralization in government and a stronger organization of the priesthood were introduced into Hawaii at that time. It is impossible to tell whether the other similarities of the Hawaiian and southeastern Polynesian cultures are due to this relatively late contact, but it seems probable that those features which show a very close agreement—such as netted featherwork, tapa painting, watermarked beaters and the conventions employed for human effigies—were brought to Hawaii by the southern immigrants. The similarities in canoes, houses and stone implements, on the other hand, are probably more ancient and point either to an earlier contact or to the partial derivation of both the Hawaiian and southeastern Polynesian cultures from the same source. The main features which distinguish the Hawaiian culture from the Maori and Marquesan cultures are the high social and religious organization of the Hawaiians and the absence in Hawaii of cannibalism, head

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

171 174 hunting, organized instruction for young men, curvilinear art and decorative carving. Stone construction was also highly developed in Hawaii although practically absent in New Zealand. If those features which were probably introduced into Hawaii from southeastern Polynesia in comparatively recent times are eliminated, the residual Hawaiian culture is intermediate between the Maori-Marquesan and Samoan-Tongan cultures but seems to be most closely related to the Maori-Marquesan cultures.

The Marquesas and Hawaii have several features in common which are lacking in New Zealand. Although the historic culture of all the Marquesan islands was nearly the same, decorative carving and curvilinear art seem to have been more highly developed in the southern islands of the group, while stone construction was more highly developed in the northern islands. The northern islands also showed an increased tendency toward centralized government and toward a belief in the divinity of chiefs. The resemblance of the Marquesan culture to that of Hawaii was thus more marked in the northern than in the southern islands of the group. The southern islands are more desirable for settlement and lie nearer to the Society group so that immigrants from southeastern Polynesia would be likely to encounter them first. The traditions of the southern Marquesans indicate that they did not reach the group until about 1000 A.D. (Handy, personal correspondence). It seems probable, therefore, that the historic culture of the Marquesas was a blend between an original culture somewhat like that of the early Hawaiians and a Maori like culture which entered the group from Southeastern Polynesia at some later time.

The Society Island culture is intermediate in many respects between the Maori-Marquesan and Samoan-Tongan cultures. As it is almost certain that cultures similar to the Maori and Marquesan ones formerly existed in southeastern Polynesia it seems probable that the Society Island culture is a blend between an early culture of Maori-Marquesan type and a culture of western Polynesian type. Society Island culture shows a few distinctive features, the most important of which are an organized priesthood and a considerable centralization of government with suggestions of a feudal system. The historic Samoan-Tongan culture shows a tendency toward centralized government and it seems probable that the distinctive features of the Society Island culture originated in the Society Islands as a result of the contact of immigrants from western Polynesia with a subject population.

It is possible to distinguish three main types of culture in Polynesia. These cultural types correspond in a general way with the culture areas distinguishable in other parts of the world, but their historic distribution was not geographically continuous. One type of culture, linked with populations pre-

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX5

dominantly Indonesian, centered in western Polynesia. A second type seems to have centered in southeastern Polynesia, associated with people predominantly Caucasic, but who showed considerable negroid admixture. This type survived into historic times in the Marquesas and New Zealand but had been greatly modified in the Society Islands by immigrants with a culture of western Polynesian type. A third culture, associated with populations of mixed Indonesian and Caucasic type with little negroid admixture, formerly existed in Hawaii and the Marquesas, but had been modified or displaced in the Marquesas by immigrants with a culture of southeastern Polynesian type. Two of the cultural types are, therefore, linked with mixed populations and have either been introduced into Polynesia by mixed groups of immigrants or have been developed from the fusion in Polynesia of races dissimilar in physical type and probably in culture. The evident correlation between culture and physical type in Polynesia points to a relatively recent settlement of the region.

The Samoan and Tongan cultures apparently are not hybrids produced by the complete fusion of originally distinct cultures. They are rather to be considered as developments of a single comparatively simple culture which has been modified by borrowing from several sources. This culture seems to have been characterized by the use of rectangular houses or houses with a rectangular center and apses, many piece canoes and lateen sails; bludgeon clubs and possibly throwing clubs; a high development of mat weaving with a use of fine mats as clothing; an angular geometric art with a poor development of wood carving and a rarity or absence of human effigies; a moderate development of stone construction, extended earth burial for commoners and vault burial for chiefs; a tendency toward centralized government with divine chiefs and social classes; elaborate geneologies, and a worship of gods or dead chiefs. The Samoans and Tongans appear to be racially more homogeneous than the inhabitants of any of the other large Polynesian groups and are predominantly brachycephalic (Dixon, 70 *a*, Pl. XXII-XXV), with a large proportion of the Indonesian race (79 *b*, p. 19). It seems probable, therefore, that the culture just outlined was introduced into Polynesia by immigrants of Indonesian race.

The Maori and Marquesan cultures, which seem to be the historic representatives of the old southeastern Polynesian type of culture, show a number of Melanesian affinities. Maori art resembles that of the Massim region of New Guinea and that of some parts of New Britain, New Ireland and the Solomon Islands much more than it does that of western Polynesia. The five-piece type of canoe construction was used in most of the Melanesian localities where the natives built large craft and the highly decorated bows and sterns of the Maori and Marquesan canoes are suggestive of some Melanesian forms. Cannibalism,

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

head hunting, preservation of the skulls of ancestors, exposure or preservation of corpses, instruction or initiation of young men, absence of large governmental units and chiefs of little power are all of wide occurrence in Melanesia although lacking in western Polynesia. In spite of the general Melanesian tone of the Maori and Marquesan cultures, analysis shows that they are not closely linked with the culture of any one Melanesian locality. The art resemblances are general rather than specific and the Maori-Marquesan image conventions are practically absent in Melanesia. The non-material traits common to the Maori-Marquesan and Melanesian cultures are of very wide occurrence in Melanesia and are present in cultures which differ considerably on the material side. Single traits of the Maori and Marquesan material cultures are often present in one or two of the Melanesian cultures but the distribution of these traits is so irregular that little can be deduced from it.

Both the culture and physical type of the northern Maori and southern Marquesans indicate that their ancestors had been in contact with some negroid people. It has generally been assumed that this contact occurred in the course of their migration from Indonesia and that the Melanesian elements present in Polynesia reached that region as inclusions in some non-negroid race. Churchill (69, p. 139) advances the theory that the Polynesian immigrants coasted along Melanesia and made many stops to rest and raise crops, in this way coming into close contact with the negroid peoples of the region. The northern Maori and southern Marquesans are predominantly of the Caucasic race and if this race came by way of Melanesia and picked up negroid blood and Melanesian cultural traits in transit, we should expect to find negroid blood and Melanesian traits in all the groups where the Caucasic element is important. It is important in Hawaii, where there is very little of the negroid element (Sullivan, 79, *b*, p. 19) and where the culture shows hardly any Melanesian affinities. It seems probable, therefore, that at least some of the Caucasic immigrants into Polynesia had had little or no contact with Melanesians at the time of their arrival. The population of Easter Island, which lies on the extreme eastern edge of Polynesia, shows a larger proportion of negroid types than that of any other Polynesian locality (Dixon, 70, *a*, p. 370). Stone implements which are of Melanesian type and which differ considerably from those used by the historic population have been found in Tahiti. It seems improbable that a racial element which entered Polynesia as an inclusion would have retained its distinctive implement types or would have been strong enough to dominate physically in the easternmost Polynesian island thousands of miles from Melanesia. It is more probable that the population of central and southeastern Polynesia was at one time predominantly negroid in physical type and Melanesian rather than Polynesian in culture.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

The southeastern Polynesian type of culture probably originated in central and southeastern Polynesia through the fusion in that region of an early negroid population with immigrants of the Caucasic race. The cultures of these two races no doubt differed considerably but it is almost impossible to tell which of the features present in the resulting culture are referable to the negroids and which to the Caucasic immigrants. The presence of a feature of the southeastern Polynesian culture in Melanesia is not sufficient evidence for its ascription to the negroid population, for the Caucasic people probably reached Melanesia as well as Polynesia. The contact of two cultures which are not too widely separated in the scale of development is stimulating to both. Ideas and appliances are borrowed back and forth and worked over to conform to the pattern of the borrowing culture. When dissimilar cultures fuse, the resulting complex is comparable to a chemical rather than a mechanical mixture. Some features of the original cultures may survive with little change but others will be greatly modified and new features may arise which can not be directly traced to either of the ancestral cultures. In view of the general situation in Melanesia and Polynesia the following traits may be tentatively ascribed to the culture of the negroid stratum in the Polynesian population:

Round, oval or canoe shaped houses, five piece canoes with decorated bows and sterns, axes and smoothly ground tangless adzes, staves and sickle or pick clubs, the throwing cord, curvilinear art, cannibalism, spirit worship, initiation or instruction for young men.

The culture of the Caucasic immigrants seems to have been characterized by the use of rectangular houses with permanent beds, special houses on posts, five-piece canoes, double canoes, triangular sails, partially ground angular tanged adzes, stone pounds, stilts, kites, human effigies, stone construction, exposure or preservation of corpses with flexed burial for the very poor or diseased, preservation of skulls of ancestors, head hunting and ancestor worship.

The blending of these two cultures produced a hybrid culture which was richer than either of its parents. There was a considerable improvement of technical processes and a remarkable efflorescence of art. Several new features of material culture seem to have been developed. Among these were the use of wooden slide doors in dwellings, a characteristic form of canoe decoration, fully ground angular tanged adzes, small stone effigies, shell trumpets with separate mouth pieces, wooden trumpets, oval boxes with tight fitting covers, rigid conventions in the pose of human effigies, and probably the practise of mummifying corpses by evisceration and long continued rubbing with oil.

The Hawaiian culture resembles the southeastern Polynesian culture in some respects but lacks most of the features which, because of their wide oc-

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

currence in Melanesia, are probably referable to the negroid stratum in the southeastern Polynesian population. It also has several features in common with the western Polynesian culture. It seems probable, therefore, that it is a blend between a culture of western Polynesian type and the culture of the Caucasic immigrants who mixed with negroids to produce the southeastern Polynesian culture. The historic Hawaiians are predominantly brachycephalic but Sullivan concludes that they are a thorough mixture of the Caucasic and Indonesian races.

Each of the three races present in Polynesia probably entered the region at a different time and brought with it a distinctive culture but it is still impossible to establish their chronological sequence. The negroid race was probably the first to arrive in central and southeastern Polynesia. The main argument which has been advanced against the presence of a negroid population in this region has been the supposed inability of negroid peoples to make the long voyages necessary to colonize Polynesia. It is improbable that a race able to reach Fiji from the New Hebrides, the nearest Melanesian group to the west, would have been unable to cross the shorter stretch of sea separating Fiji from Tonga or to make the only slightly longer trip from Fiji to Samoa. The central and southeastern Polynesian groups are comparatively close lying and it would not have been difficult for even poor navigators to pass along them as far east as the Austral and Tuamotu Islands. It is not necessary to suppose that the migration of the negroid race was a deliberate or organized movement. It is probable that, like the historic Melanesians, they disliked long voyages but their presence in Fiji proves that they had seaworthy vessels and it would always be possible for a canoe to be blown out of its course and carried to islands unknown before. There is no indication that a pure negroid race reached Hawaii and the negroids probably did not reach New Zealand or the Marquesas except as inclusions in some superior race.

The order of arrival in Polynesia of the Caucasic and Indonesian races must be left an open question. The traditional movements in Polynesia have been from west to east and from southeastern Polynesia to Hawaii, the Marquesas and New Zealand. As the Indonesian stock seems to be strongest in western Polynesia this may indicate that it was the last to arrive. At the same time, the Indonesian element in the populations of New Zealand and the Marquesas seems to be strongest in those localities which are least desirable for settlement and which are farthest from the probable points of arrival of immigrants from the rest of Polynesia. In New Zealand and the Marquesas, therefore, the Indonesian race may have preceded the Caucasic race. It seems probable that the sequence of arrival of the three races in central and southeastern Polynesia was first, Negroid; second, Caucasic; third, Indonesian. The priority

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

of the Indonesian race in the more distant Polynesian localities may have been due to their greater skill as navigators. The use of many piece canoes and lateen sails, which was apparently a feature of the Indonesian culture, gave them a freedom of movement which the negroid and Caucasic races probably lacked. Polynesian traditions mention long voyages of exploration and the sailing canoes of the Tongans carried complements of over a hundred men and were hardly more dependant upon winds and currents than European sailing vessels. It would not be difficult for a race which used such canoes to pass by islands which were held by hostile populations and establish itself in more distant islands which it found unoccupied or sparsely settled. The Indonesian race may have colonized both western and marginal Polynesia before it succeeded in conquering the large mountainous islands of southeastern Polynesia. The establishment of cultures of western Polynesian type in southeastern Polynesia must be quite recent for cultures of Maori-Marquesan type were still in existence there at the time of the twelfth century migration to New Zealand.

The routes by which the negroid, Caucasic and Indonesian races reached Polynesia can not be fully established until we have fuller information on Micronesia and Melanesia. The historic distribution of races and cultures in Polynesia seems to be best explained by the following hypothesis: The first settlers of central and southeastern Polynesia were negroid in race and Melanesian rather than Polynesian in culture. They entered the region largely as a result of accidental drifts and settled in Tonga, Samoa, and the Cook, Society, Austral and Tuamotu groups, but did not reach any of the more distant Polynesian localities. They came originally from Melanesia, probably from Fiji. The next immigrants to reach Polynesia were of the Caucasic race and had come from Indonesia by way of Micronesia. They arrived first in Samoa and spread over the territory held by the negroid people, mixing with them to produce a hybrid race and the southeastern Polynesian type of culture. A fairly pure group of the Caucasic race reached and colonized the Marquesas, which they found unoccupied or only partially settled by the negroids. A mixed group, in which the negroid element predominated, reached Easter Island. The Caucasic immigrants did not, at this time, reach either Hawaii or New Zealand. While the main body of the Caucasic immigrants were passing through Micronesia another group of the same race were coasting southward through Melanesia. This wing of the Caucasic migration was probably absorbed or dissipated before it reached Polynesia but it modified the culture of the eastern Melanesian islands to a considerable degree. The last immigrants to enter Polynesia in large numbers were of the Indonesian race. They came from Indonesia, like the Caucasic immigrants, and passed by way of Micronesia. In Micronesia their

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

171 vanguard met and mixed with the rearguard of the Caucasic immigrants and a
174 group of this mixed people sailed eastward, perhaps from the Marshall group,
144 and discovered and colonized Hawaii. The main body of the Indonesian invaders arrived first in western Polynesia and established themselves most thoroughly in Tonga, where the islands were comparatively small and level. In Samoa, where the islands were large and mountainous, the earlier Caucasic and negroid population held out for a considerable time and was able to somewhat modify the culture and physical type of the conquerors. In Niue, an isolated group of the earlier population survived into historic times. The Indonesians sailed southward from western Polynesia and discovered and colonized New Zealand. They also spread over southeastern Polynesia and reached the Marquesas. In that group they mixed with the earlier Caucasic population producing a culture somewhat like that which had been carried to Hawaii by immigrants of mixed Caucasic and Indonesian race. They were unable to displace the mixed Caucasic and negroid populations of the larger southeastern Polynesian islands but they established colonies on these islands. This first Indonesian invasion was followed by a period of comparative quiescence during which few voyages were made. About the year 1000 A.D. (79, *a*, p. 223) a second period of voyages commenced. It is impossible to tell what caused the resumption of nautical activity, but it seems probable that western Polynesia had become overpopulated and that the culture of the Indonesians in that region had been stimulated by their contact with Fiji. Immigrants from western Polynesia reached the Society group and explored northward from it until they rediscovered Hawaii. There they found a branch of the same people who had been modified by long isolation and so were able to establish themselves as overlords without meeting with serious opposition. They brought to Hawaii a few features of culture which they had acquired during their passage through southeastern Polynesia. In southeastern Polynesia the pressure of the invasion from the west forced some of the population to migrate to northern New Zealand and the southern Marquesas. These migrants were predominantly Caucasic and negroid in race but were probably under the direction of chiefs descended from the earlier Indonesian invaders of southeastern Polynesia. In New Zealand they destroyed the earlier Indonesian population or drove it into the undesirable localities. In the Marquesas they ousted the earlier population from the southern islands of the group but were unable to conquer the northern islands. After the departure of these emigrants from southeastern Polynesia, western Polynesian immigrants established themselves in the region, destroying or modifying the earlier type of culture.

7: Linton E-5 (1920-1921) 1923 OX6 Marquesas OX6

The conditions in Polynesia are extremely complex, and the migration theory just outlined and the theory of the derivation of all the historic Polynesian cultures from three original cultures which were introduced by different races probably err on the side of simplicity. The division of Oceania into Polynesia, Micronesia and Melanesia is, in some respects, an arbitrary one and no final settlement of Polynesian problems will be possible until we have further information on the other two areas. Ingenious theories of cultural stratification have been advanced to account for the historic conditions in Melanesia, but Micronesia is still almost unknown scientifically and has been largely ignored by Polynesian students. Even our present fragmentary knowledge of Micronesia indicates that at least one of the Polynesian races passed through that region. A systematic study of Micronesian culture and physical type would no doubt provide a key to many of the Polynesian problems.

I, TANGLESS ADZES OF POLYNESIA, FRONT AND REAR VIEWS: 1, MARQUESAS; 2, TONGA; 3, HAWAII; 4, EASTER ISLAND; 5, CHATHAM ISLANDS; 6, SOCIETY ISLANDS; B, MARQUESAN GOUGES.

[end plate 8]

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171

P. Lemon E-3 (1920-1921) 1923 OX6 Marquesas OX6

9: Greiner E-4 (no date) 1923 OX6 Marquesas OX6

figures in various poses that may well have pictographic significance are shown by Mrs. Handy (18, Pl. xv, *C*).[1]

SUMMARY

Marquesan designs may be grouped roughly into three classes: House post designs, which are predominantly angular geometric; bowl designs which are predominantly curvilinear; and tattoo designs.

Designs for house posts were extensively used on recent canoe models and were probably used on ancient canoes. The table of design elements (pp. 32-34) shows that bowl designs make use of the largest number of design elements and motifs. They even include most of the house post designs although in subordinate positions. The most important bowl designs not found on house posts are the hook scroll, curvilinear spirals, small tiki faces, floral designs, and representations of insects. The few angular spirals seen on house posts are not typical, but this design is important in bowl decoration. *Mata, kauke,* and pierced ovals are as characteristically bowl designs as tattoo designs. Bowl designs have been freely used in the decoration of canoe paddles, war clubs, treasure boxes, chisel handles, stilts and *pakea.*

The designs of ornamental sennit lashings extensively used in the Marquesas, Tonga, and Samoa are similar to those carved on Marquesan house posts. It seems probable that these designs were originally worked out in the sennit lashings and that in the Marquesas they were later copied in wood carving.

The tiki figure has gone through an extensive process of conventionalization, many stages of which are visible in the Marquesan carving. There is a gradual degeneration of design from the complete tiki figure carved in the full round, represented by the large wooden and stone idols and by a few wooden house posts, to tiki figures representing only part of the body, usually the upper half, as found on small bone ornaments. The next step is to omit the body entirely and show only the face which in turn is still further reduced, leaving out one facial feature after another until only the eyes or eyes with ears attached remain. It should not be inferred that the highly conventionalized forms are now used to the exclusion of the more complete tikis. The design is chosen to fit the object and the space to be decorated, but there are far more tiki faces than full tiki figures and more incomplete tiki faces than complete ones.

The *mata* is closely related to the tiki face and may have been derived from it. *Mata* are much more in evidence on canoe models and canoe paddles than on war clubs and bowls; the opposite relation holds for tiki

[1] [See 8: Handy, this file.—Analyst]

12: Sullivan D-4 (no date) 1923 OX6 Marquesas OX6

or peaked. There is no evidence of any other kind of wrapping or deformation. The effects of this treatment of infants are very evident in the photographs, particularly in the foreheads of elderly men. The practice is identical with that in Hawaii. It is difficult to say just how much it would affect the cephalic index if at all. Handy also states that the nose was flattened during infancy.

/102 cont./ 182 174 883 571
skills, both profane and religious, which had to be learned at one time or another during youth. It is difficult to believe that a large segment of the young population could be allowed to spend a period of several years in non-productive, unsupervised pursuit of pleasure. I believe that Linton and Handy, in discussing the ka'ioi, were describing a culture [114] contact phenomenon arising in the disintegration of the society; due partially to the complete lack of direction and goals in the society, as well as to the presence of Europeans [648] who continanced and encouraged in youths the kind of loose behavior described for the ka'ioi groups. With the main function of the ka'ioi (as warriors) removed, and mission efforts [797] being devoted to stamping out the practice of tattooing (one [304] of the bonds which held the group together), it is little wonder that the ka'ioi preserted a group of aimless pleasure-seekers to the ethnologists of the early 1900's.

There are no data on the patterns of public courtship 584 834 followed in the aboriginal period, but it appears that the 182 present coyness and restraint exhibited in the presence of others was probably also an aboriginal trait, as it occurs in other areas of Polynesia (as will be discussed below), and /103/ [171] • is therefore not an atypical phenomenon for Polynesia.

The adolescent pattern of sexual relationships presents 883 some interesting evidence of the effects of culture change. 178 In the aboriginal period, adolescent sexual relations occurred in much the same contexts as they do at present, with two major exceptions: public intercourse, sanctioned on some [833] occasions in the past, is no longer practiced, and the [342] formalized girls and boys dormitories no longer exist. Otherwise, trysts and chance meetings are the scene for much sexual activity as in former times.

Perhaps the most interesting changes are those which 571 produced the dichotomization of the adolescent and adult 831 female population into "normal" and "promiscuous" groups. 178 In conjunction with this division, there is a trend among younger males to regard some of the behavior traits characteristic of the promiscuous girls and adults of the population -- fellatio-cunnilinctus, the use of varying positions of sexual

/117 cont./

The discrepancies encountered in comparing the Linton report with other sources on Marquesan culture are also encountered when going /118/ further afield; comparing the Linton report with data available from elsewhere in Polynesia (Mead, Metraux, Ferdon). If Linton's views were to be accepted, the Marquesan culture would be completely atypical for the rest of Polynesia. The present data show, however, that there is a considerable area of similarity between the sexual behavior of the Samoans and that of the Marquesans despite the considerable distance, both geographical and chronological, which separates these two cultures. In Easter Island, relatively closer in space and time to the Marquesan culture, similarities in sexual behavior are also apparent, despite the heavy acculturation that occurred on that island in the past century.

While casting considerable doubt on the validity of many of Linton's statements and conclusions, the present study demonstrated rather clearly the superior quality of E. S. C. Handy's ethnography (1923), corroborating the statements and conclusions of this author time and again. Unfortunately, it is Linton's version of Marquesan culture which has been most widely used among non-Polynesianists. In view of the fact that it was prepared for and published in Kardiner's volume on personality and culture, it is little wonder that it has become current in the writings of that particular area of the behavioral sciences.

In addition to demonstrating the distortions implicit in Linton's view of Marquesan sexual behavior in particular and culture in general, the present study presents an interesting case of the dynamics of culture change. In Marquesan society, so severely shattered by the French /119/ colonization, native social organization is almost a meaningless form: the obliteration of countless statuses and roles, the tremendous conflicts engendered between aboriginal and introduced roles have all acted to break down the social structure to an absolutely minimal residue of its former self. In many other areas of the culture (art, technology, music, etc.) most of the culture content has vanished without a trace, yet in the area of